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Capacity Without Institutions: Why Training Interventions Fail to Close the NDC Implementation Gap in East Africa

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ABSTRACT

Despite two decades of sustained international investment in climate capacity-building, Nationally Determined Contribution (NDC) implementation in East Africa remains persistently below the trajectory. This paper argues that this paradox is structurally produced by a fundamental mismatch between what capacity-building interventions build and what NDC implementation requires. Drawing on Andrews, Pritchett, and Woolcock's capability traps framework, Ostrom's Institutional Analysis and Development (IAD) framework, and the emerging climate governance literature on adaptation implementation deficits, we develop a three-level analytical framework distinguishing individual, organizational, and systemic capacity. Through a comparative document analysis of NDC texts, national planning documents, budget frameworks, and capacity-building program documentation across Kenya, Tanzania, Uganda, and Rwanda, we demonstrate that international interventions concentrate overwhelmingly at the individual level while implementation failures occur predominantly at organizational and systemic levels. We introduce the concept of institutional absorption capacity to theorize the mechanisms through which individual skills either translate or fail to translate into enduring institutional change. The paper contributes to the climate governance literature by providing the first systematic comparative assessment of the capacity-institution gap in East African NDC implementation and draws implications for the redesign of climate capacity-building architecture under the New Collective Quantified Goal (NCQG) framework.

INTRODUCTION

A fundamental paradox lies at the heart of climate governance in East Africa. Over the past two decades, Kenya, Tanzania, Uganda, and Rwanda have collectively received hundreds of millions of dollars in climate capacity-building support from multilateral institutions, bilateral donors, and international organizations (Meattle et al., 2024; OECD, 2023). Technical assistance programs have trained thousands of government officials, civil society practitioners, and private sector actors in climate policy design, greenhouse gas

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accounting, monitoring, reporting, and verification (MRV) systems, and green finance mobilization (NDC Partnership, 2022; UNDP, 2023b). Yet despite this sustained investment, Nationally Determined Contribution (NDC) implementation in the region remains profoundly below trajectory, with current policies placing East Africa on a warming path far exceeding the Paris Agreement's 1.5 degrees Celsius target (UNDP, 2023a; UNFCCC, 2022).

The empirical indicators of this implementation deficit are stark and well-documented. Fewer than 40 percent of sector ministries across the region align their annual budgets with NDC priorities, creating persistent fragmentation between climate commitments and public expenditure decisions (African Development Bank, 2024; Khalifa, 2025). Adaptation finance disbursement ratios across East Africa average approximately 52.7 percent of committed resources, indicating a structural gap between finance pledges and actual resource delivery to implementing institutions (Meattle et al., 2022; Savvidou et al., 2021). Local governments, the primary delivery mechanisms for adaptation actions that affect rural and climate-vulnerable populations, receive less than 10% of the climate financing required to execute their mandated responsibilities (Global Center on Adaptation, 2023; Ijjasz-Vasquez et al., 2024). These figures collectively suggest that the problem of NDC implementation is not primarily one of insufficient knowledge or inadequately trained individuals, but rather one of institutional architecture and systemic governance.

The persistence of this implementation deficit in the face of substantial capacity-building investment raises a critical and underexplored question: why does individual capacity accumulation not translate into institutional performance improvement? This question has been asked in adjacent literatures, development economics, public administration, and organizational theory, but has received surprisingly limited systematic attention in the climate governance literature (Andrews et al., 2017; Termeer et al., 2017). The dominant response in climate policy discourse has been to identify the problem as one of insufficient capacity and to prescribe more training, more technical assistance, and more capacity-building investment (NDC Partnership, 2022; UNFCCC, 2024a). This paper argues that this diagnosis is fundamentally incomplete and that continuing to apply it will reproduce the same gap in successive intervention cycles, regardless of the quantity of investment.

The existing academic literature on NDC implementation has grown substantially since 2018, generating important insights into the finance gaps, technical barriers, and political economy constraints that hinder progress (Northrop et al., 2018; Pauw et al., 2020; Roelfsema et al., 2020, 2020). Pauw et al. (2020) provided one of the first systematic assessments of NDC implementation gaps, identifying finance, technology, and capacity as the three principal constraints. Roelfsema et al. (2020) subsequently demonstrated, through a global policy assessment, that current climate policies are insufficient to achieve Paris Agreement targets and that implementation gaps are widening rather than narrowing. Lesnikowski et al. (2016) specifically examined adaptation implementation in developed countries, finding that governance quality and institutional integration were stronger predictors of implementation depth than financial resources alone. These contributions are important, but they share a common limitation: they treat capacity as a unidimensional concept, conflating the knowledge held by individuals with the organizational and systemic conditions required for that knowledge to be institutionally applied.

The capacity-building literature in international development more broadly has begun to address this conflation, most notably through Andrews et al. (2017) concept of capability traps and the associated diagnosis of isomorphic mimicry, the tendency of public organizations in developing countries to adopt the external form of capable institutions without developing their functional reality. This framework has been applied productively to public financial management reform (Andrews, 2013), judicial reform

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(Pritchett et al., 2013), and health system strengthening (Benner et al., 2004), but has not been systematically applied to climate governance. Simultaneously, the institutional economics literature, drawing on Ostrom's (1990, 2009) Institutional Analysis and Development framework, provides analytical tools for distinguishing between rules-in-form and rules-in-use that are directly applicable to the gap between NDC commitments on paper and institutional behavior in practice. This paper brings these two theoretical traditions into productive dialogue with the climate governance literature to address a gap that is both analytically significant and practically urgent.

The specific contribution of this paper is threefold. First, it develops a three-level analytical framework distinguishing individual, organizational, and systemic capacity that operationalizes the capability traps concept for the specific context of NDC implementation. Second, it introduces the concept of institutional absorption capacity to theorize the mechanisms through which individual skills either translate or fail to translate into enduring institutional change, providing a more precise causal account than existing frameworks offer. Third, it provides the first systematic comparative document analysis applying this framework across four East African countries, generating evidence that is both theoretically grounded and empirically specific. In doing so, the paper advances beyond existing single-country case studies and beyond the global aggregate analyses that dominate the NDC literature to offer a meso-level comparative analysis that is most immediately useful for regional and national policy reform.

THEORETICAL FRAMEWORK

Three Levels of Institutional Capacity: An Analytical Taxonomy

The concept of capacity in development and governance literature has been subject to persistent conceptual ambiguity, often used interchangeably to describe individual skills, organizational competence, and systemic governance quality (Grindle, 1997; Morgan, 2006). This ambiguity is not merely semantic; it has direct practical consequences for how capacity-building interventions are designed, funded, and evaluated. When capacity is treated as a unidimensional concept, interventions targeting the most visible and measurable dimension, individual knowledge and skills, are systematically favored over those addressing the more diffuse and politically complex organizational and systemic dimensions (Baser & Morgan, 2008; Morgan, 2006). The result, as Brinkerhoff and Morgan (2008) argue in their foundational review of capacity concepts, is a persistent gap between the rhetoric of institutional strengthening and the reality of individually-focused training programs that leave organizational structures and systemic incentives unchanged.

Drawing on Brinkerhoff and Morgan (2010), Morgan (2006), and the UNDP's (2009) capacity development framework, this paper proposes a three-level taxonomic distinction that structures both the analytical framework and the coding methodology. The first level, individual capacity, encompasses the knowledge, skills, competencies, and motivations held by specific persons to perform climate governance functions. This includes technical skills in GHG accounting, MRV system operation, climate finance analysis, and policy design, as well as softer competencies in advocacy, stakeholder engagement, and leadership. Individual capacity is the most common target of international climate capacity-building and the most readily measurable through conventional program monitoring frameworks(GIZ, 2022; NDC Partnership, 2022; UNDP, 2023b). However, as Argyris & Schön (1978) established in their foundational work on organizational learning, individual learning does not automatically transfer into organizational routines or systemic change, a distinction their framework captures through the difference between single-loop and double-loop learning.

The second level, organizational capacity, refers to the systems, processes, routines, incentive structures, and internal accountability mechanisms through which organizations

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collectively perform climate governance functions. Organizational capacity is what Ostrom (1990) describes in terms of the operational rules that govern how individuals within an institution actually behave, as opposed to the formal rules that prescribe how they should behave. In the specific context of NDC implementation, organizational capacity encompasses functional MRV systems within sector ministries, inter-departmental coordination protocols for climate data collection and reporting, performance management systems that link individual roles to climate outcomes, and institutional mandates that assign clear responsibilities for specific NDC commitments (ICAT, 2023; Lesnikowski et al., 2016). The critical analytical insight is that an organization can employ individually well-trained staff while lacking the organizational processes necessary to translate those skills into institutional outputs, a condition that Pritchett (2014) describes as the "capability of individuals without organizational capability."

The third level, systemic capacity, refers to the enabling environment, comprising legal frameworks, budgetary systems, inter-agency coordination mechanisms, subnational governance linkages, and accountability structures, within which organizations operate. Systemic capacity is closest to what Ostrom (2009) terms the constitutional and collective-choice rules that structure the operational context of governance, and to what Hall and Taylor (1996) in historical institutionalism describe as the macro-institutional framework that shapes organizational incentives and constraints. In the NDC context, systemic capacity encompasses the degree to which climate targets are legally mandated and reflected in budget frameworks, the quality of inter-ministerial coordination mechanisms for NDC mainstreaming, the adequacy of resource transfers to subnational governments for adaptation delivery, and the existence of independent oversight mechanisms that create genuine accountability for implementation progress (Brinkerhoff & Morgan, 2010; Global Center on Adaptation, 2023; Howlett et al., 2009). Without systemic capacity, even well-functioning organizations staffed by highly trained individuals cannot achieve NDC implementation at scale, because the incentive structures and resource flows that drive institutional behavior remain misaligned with climate objectives.

Capability Traps and Isomorphic Mimicry in Climate Governance

The most penetrating theoretical framework for understanding persistent institutional underperformance despite capacity investment is Andrews et al. (2017) concept of capability traps. Building on two decades of research at Harvard's Building State Capability program and drawing on comparative evidence from public sector reform across more than fifty developing countries, Andrews et al. argue that development interventions systematically produce what they term "premature load bearing", situations in which organizations adopt the external forms of effective institutions (strategic plans, performance management systems, coordination committees, training programs) without developing the functional reality that these forms are intended to represent (Andrews, 2013; Pritchett et al., 2013). The result is a capability trap in which the appearance of reform activity continuously reproduces itself without generating the institutional change that the reform ostensibly pursues. This concept is directly applicable to climate governance in East Africa, where the proliferation of NDC implementation units, climate coordination committees, MRV training programs, and green finance workshops has not been accompanied by commensurate improvements in institutional performance on the dimensions that drive NDC progress.

The specific mechanism through which capability traps are reproduced in climate governance involves what Andrews et al. (2017) term isomorphic mimicry, the adoption by governments and organizations of institutional forms that are internationally recognized and donor-approved, regardless of their functional appropriateness or institutional embeddedness. DiMaggio and Powell's (1983) foundational institutional isomorphism framework, which

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identifies coercive, mimetic, and normative mechanisms through which organizations come to resemble each other, provides the theoretical underpinning for this account. In the climate governance context, coercive isomorphism operates through donor conditionalities that require recipient countries to establish specific institutional arrangements (NDC implementation units, climate finance tracking systems, MRV frameworks) as conditions for accessing capacity-building support and climate finance. Mimetic isomorphism operates through the diffusion of "best practice" models from more institutionally advanced countries that may not be contextually appropriate. Normative isomorphism operates through the professional training and socialization of climate officials in international fora that promote specific institutional templates (Betsill & Bulkeley, 2006; Pelling et al., 2015). The combined effect is a landscape of institutional forms that look like capable climate governance without functioning as such.

The political economy of capability traps in climate governance reinforces this dynamic through a specific principal-agent structure that has received insufficient attention in the literature (Eisenhardt, 1989; Pratt, 1978). International donors and multilateral institutions who the principals in this relationship face strong incentives to measure and report capacity-building success through observable, attributable, and short-term indicators: workshops conducted, officials trained, documents produced, systems established (Eyben, 2015; Mosse, 2004). These indicators are readily quantifiable, satisfy the reporting requirements of donor accountability frameworks, and can be attributed to specific interventions within the project cycles that govern international cooperation. Recipient governments, the agents, face incentives to demonstrate compliance with these indicators regardless of whether the underlying institutional changes are occurring, because compliance determines continued access to financial and technical support (Andrews et al., 2017; Mosse, 2004). The result is a system in which both principals and agents are rationally responding to their respective incentive structures in ways that collectively reproduce the capability trap. Meaningful institutional change, which is slow, diffuse, politically contested, and difficult to attribute to specific interventions, is structurally disadvantaged within this system (Booth, 2011; Leftwich & Wheeler, 2011).

Several scholars have begun to apply related frameworks to climate governance specifically, though systematic empirical application remains limited. Pelling et al. (2015) identify what they describe as "transformative adaptation" as a fundamentally different institutional challenge from incremental adaptation, requiring changes in the structures and systems that generate vulnerability rather than merely in the technical responses to climate impacts. Termeer et al. (2017) examine governance capacities for climate change adaptation, arguing that the capacity to deal with uncertainty, complexity, and fragmentation requires systemic and reflexive governance capabilities that go far beyond the technical skills typically targeted by capacity-building programs. Underdal (2010) similarly identifies the gap between the demand for effective climate governance institutions and the supply of institutional capacity as the central challenge of international climate policy. This paper builds directly on these contributions by providing the empirical specification and comparative evidence that these frameworks lack, grounding the capability traps argument in the specific context of East African NDC implementation through systematic document analysis.

Institutional Absorption Capacity: A New Concept

While the capability traps framework provides a powerful account of why institutional forms are adopted without functional reality, it does not fully theorize the specific mechanisms through which individual capacity either does or does not translate into organizational and systemic change. To address this gap, this paper introduces the concept of institutional absorption capacity, defined as the degree to which an organization possesses the structures, processes, incentive

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systems, and resource base necessary to incorporate externally-provided individual capacity into enduring institutional routines, systems, and behaviors. This concept draws on two theoretical antecedents without being reducible to either. Cohen and Levinthal's (1990) absorptive capacity concept, developed in the context of organizational learning and technological innovation, establishes that the ability to recognize, assimilate, and apply new knowledge is itself a function of prior knowledge and organizational structure. Firms with higher absorptive capacity learn faster and more effectively from external sources. While Cohen and Levinthal's framework was developed for private sector organizations, its core insight that absorption is an organizational property, not simply a function of the quality of information provided, translates directly to the public governance context (Volberda et al., 2010; Zahra & George, 2002).

The second theoretical antecedent is Chambers's (1994, 2005) work on participation and institutional change in development contexts, which establishes that the ability of externally-introduced knowledge to influence institutional behavior depends critically on whether the institutional environment provides sufficient incentives, mandates, and resources for that knowledge to be acted upon. Chambers identifies what he terms "defensive routines" within organizations, established patterns of behavior that protect institutional arrangements from externally-induced change that parallel Argyris and Schön's (1978) concept of organizational defensive routines as responses to threatening information. In the climate governance context, these defensive routines manifest as institutional behaviors that superficially adopt capacity-building outputs (establishing a climate unit, attending training programs, producing climate plans) while protecting the underlying resource allocation patterns, ministerial boundaries, and accountability structures from the changes that effective NDC implementation would require (Andrews et al., 2017; Pelling et al., 2015).

Institutional absorption capacity, as developed in this paper, encompasses four specific organizational and systemic conditions that determine whether individual capacity translates into institutional performance. The first condition mandates clarity on the degree to which organizations have clear, legally mandated responsibilities for specific NDC implementation functions, with corresponding accountability mechanisms. Without mandate clarity, trained individuals lack the institutional authority to act on their skills, however technically proficient they may be (Ostrom, 1990; Howlett et al., 2009). The second condition is resource alignment, the degree to which budget allocations and financial flows reflect NDC priorities and provide the fiscal space for trained individuals to implement climate actions. Meattle et al. (2024) and the World Bank (2023) consistently document the gap between climate commitments and climate expenditures in East Africa, which is itself evidence of insufficient resource alignment. The third condition is coordination infrastructure, the existence of functional inter-agency, inter-ministerial, and intergovernmental coordination mechanisms that enable the collective action required for NDC implementation across sector boundaries. Biermann et al. (2012) establish fragmentation of earth system governance as a primary challenge of environmental governance, and this fragmentation is acutely evident in the inter-ministerial coordination gaps documented across East African NDC frameworks (Khalifa, 2025; Meattle et al., 2022). The fourth condition is accountability architecture, the presence of independent oversight mechanisms, public reporting requirements, and civil society engagement frameworks that create genuine incentives for institutional actors to deliver on NDC commitments (Fox, 2015; Gaventa & McGee, 2013).

Ostromian Lens: Rules-in-Form versus Rules-in-Use

Elinor Ostrom's Institutional Analysis and Development (IAD) framework provides an additional theoretical lens that illuminates the specific mechanisms through which the capability

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trap operates in climate governance (Ostrom, 1990, 2009; Polski & Ostrom, 1999). The IAD framework distinguishes between three nested levels of institutional rules: operational rules that govern day-to-day decisions, collective-choice rules that govern who participates in decision-making and under what conditions, and constitutional rules that govern the modification of collective-choice rules. More fundamentally for our purposes, the framework distinguishes between rules-in-form, the officially stated rules and procedures, and rules-in-use, the actual rules that govern behavior in practice, which may diverge significantly from formal statements (Basurto et al., 2010; Ostrom, 2009). This distinction maps directly onto the gap between NDC commitments as stated in official documents and the institutional behaviors that actually govern climate action across East African governments.

Applied to the NDC implementation context, the rules-in-form versus rules-in-use distinction reveals a specific institutional dynamic that individual-level capacity-building cannot address. When trained officials return to their institutions equipped with new climate governance skills, they operate within an institutional environment governed by rules-in-use that reflect existing power structures, resource allocation norms, ministerial incentives, and accountability mechanisms (Cleaver, 2017; Ostrom, 1990). These rules-in-use may be fundamentally misaligned with the rules-in-form that NDC commitments represent, creating a situation in which trained officials face institutional environments that either fail to support or actively resist the application of their new competencies. McGinnis (2011) develops this argument in the context of polycentric governance, arguing that the alignment between formal rules and the informal norms, practices, and incentive structures that govern actual behavior is a precondition for effective institutional performance. The implication for climate governance is that capacity-building targeted at individual knowledge, which operates at the level of formal rules-in-form, cannot by itself change the rules-in-use that determine whether that knowledge is institutionally applied.

Situating the Framework in the Climate Governance Literature

The theoretical framework developed above intersects with several active debates in the climate governance literature that require explicit engagement. The first is the debate on adaptive governance and social-ecological systems (Adger et al., 2005; Folke et al., 2005; Pahl-Wostl, 2009), which identifies adaptive capacity as a property of social-ecological systems rather than individuals, encompassing the flexibility, learning capacity, and institutional conditions that enable societies to respond effectively to environmental change. This literature supports the three-level framework's insistence that capacity is irreducibly systemic, but has been less focused on the specific mechanisms through which international capacity-building interventions interact with these systemic properties. The second relevant debate concerns the relationship between climate finance and institutional capacity, with Buchner et al. (2021) and Meattle et al. (2024) documenting the access barriers that prevent institutional capacity constraints from being resolved by increased finance flows alone. The third debate concerns the political economy of NDC ambition and implementation, with several studies, such as Dubash (2021), Meckling and Jenner (2016), and Hochstetler (2020), examining how domestic political economy factors shape both NDC ambition and implementation capacity. This paper contributes to all three debates by providing a theoretical framework and empirical methodology that links individual capacity-building, organizational performance, and systemic governance conditions within a unified analytical structure.

The African climate governance literature specifically has produced important empirical contributions to understanding the institutional dimensions of climate policy that directly inform this paper. iGST WA Hub (2025) examines climate governance in African LDCs, identifying institutional fragmentation, weak mainstreaming, and limited local government engagement as the

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primary implementation barriers, findings consistent with the organizational and systemic capacity gaps this paper theorizes. Chambwera et al. (2014) in the IPCC's Fifth Assessment Report document the adaptation implementation gap in Africa, attributing it to a combination of financial, institutional, and capacity constraints, though without disaggregating the institutional dimension analytically. Schipper et al. (2022) examine why adaptation interventions in Africa are often maladaptive, finding that the failure to address systemic drivers of vulnerability, including governance structures and institutional incentives, is the primary cause. These findings collectively support the paper's central argument and provide the empirical context within which the comparative document analysis is situated.

METHODOLOGY

Research Design: Comparative Document Analysis

This paper employs systematic comparative document analysis (CDA), a qualitative research design enabling structured examination of documentary evidence across multiple cases to identify patterns and test analytical hypotheses (Bowen, 2009). CDA is particularly suited to climate governance research because the primary artifacts of governance, NDC texts, national plans, budget frameworks, and program logframes are publicly accessible and analytically rich, containing the institutional commitments and intervention logics through which climate governance is formally constituted.

The comparative design follows structured focused comparison as elaborated by George and Bennett (2005). Kenya, Tanzania, Uganda, and Rwanda are selected based on five shared characteristics: EAC membership; Paris Agreement ratification with at least two NDC generations submitted; comparable lower-middle or low-income classification; engagement with the same international capacity-building programs; and shared climate vulnerability profiles (East African Community, 2011; Schipper et al., 2022). Against these commonalities, the four cases exhibit meaningful variation in NDC implementation performance, MRV quality, and climate budget integration, providing the analytical leverage to examine the capacity-institution gap across different institutional contexts.

Case Selection Justification

Kenya is selected as the case that most vividly illustrates the capability trap paradox: high individual capacity investment, substantial international engagement, and relatively sophisticated climate policy architecture (including the Climate Change Act 2016, the National Climate Change Action Plan 2023–2027, and the Energy Transition and Investment Plan) alongside persistent gaps in budget-NDC integration and local government climate finance (Government of Kenya, 2021; Meattle et al., 2022). Tanzania is selected as the case demonstrating the most pronounced institutional stagnation relative to capacity-building investment, with persistent weaknesses in MRV systems, budget mainstreaming, and inter-ministerial coordination despite multiple international support programs (Government of Tanzania, 2021; Meattle et al., 2022). Uganda provides a case of intermediate institutional performance with notable progress in climate policy frameworks (the Climate Change Act 2021 and NDP III integration) but persistent implementation gaps at the operational level (African Development Bank, 2023; Government of Uganda, 2022). Rwanda is selected as the regional comparator that most closely approaches substantive NDC mainstreaming, with its Imihigo performance contract system, integrated climate budget tracking, and REMA institutional framework providing the highest-performing institutional context in the region, against which the capability trap dynamics in the other three cases can be evaluated (REMA, 2022; World Bank, 2022).

Document Corpus

The document corpus for this study comprises 94 documents organized across five analytical streams. Table 1 presents the complete corpus inventory by stream, country coverage, temporal

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range, and analytical purpose. The corpus was assembled through systematic retrieval from official government portals, the UNFCCC NDC Registry, the NDC Partnership knowledge portal, the GCF project database, the UNDP Climate Promise portal, the GIZ project database, and the OECD DAC Creditor Reporting System. Document selection followed three inclusion criteria: relevance to NDC implementation, institutional capacity, or climate finance in the four case countries; publication or revision between 2015 and 2024 to capture the full Paris Agreement implementation period; and availability in English or Swahili (Bowen, 2009; Yin, 2017). Documents failing any inclusion criterion were excluded, and the exclusion rationale was recorded in a document tracking register maintained throughout the analysis.

Coding Framework

All documents in the corpus were analysed using a five-dimensional coding framework derived from the theoretical framework. The framework operationalizes the three-level capacity distinction into measurable documentary indicators, enabling systematic comparison across document types and countries. Table 2 presents the complete coding framework, including dimension definitions, code categories, coding criteria, and the document streams to which each dimension is applied. The framework is designed to be applied at the paragraph level for capacity-building program documents and at the section level for national planning and budget documents, with each coded unit receiving a single code from the relevant dimensions.

Table 1: Document Corpus by Analytical Stream, Country Coverage, and Analytical Purpose

Document Stream	Countries	Period	N	Analytical Purpose
Stream 1: NDC Texts & Implementation Plans	KE, TZ, UG, RW	2015–2022	16	Primary NDC commitments, institutional specificity scoring (IS-1 to IS-5), longitudinal ambition analysis
Stream 2: National Development Plans & MTEFs	KE, TZ, UG, RW	2016–2024	20	Mainstreaming depth scoring (MD-1 to MD-5); budget-NDC alignment; sectoral climate expenditure
Stream 3: Capacity-Building Program Documents	KE, TZ, UG, RW + Regional	2015–2024	34	Intervention logic coding (IL-A to IL-D); outcome measurement quality (OM-1 to OM-5); theory of change analysis
Stream 4: MRV & Transparency Reports	KE, TZ, UG, RW	2014–2023	14	MRV institutional quality; BUR/BTR completeness; outcome measurement of institutional capacity
Stream 5: Independent Assessments & Finance Data	KE, TZ, UG, RW + Continental	2018–2024	10	Outcome variable quantification: disbursement ratios, climate finance flows, governance indices, implementation performance indicators
Total Corpus	4 countries + regional	2014–2024	94	Systematic comparative document analysis across five analytical dimensions

Note. KE = Kenya; TZ = Tanzania; UG = Uganda; RW = Rwanda. N = number of discrete documents included in each stream. Stream 3 includes program documents, logframes, mid-term reviews, and final evaluations from NDC Partnership, UNDP Climate Promise, GIZ NDC Assist, GCF Readiness, World Bank, and USAID programs. Stream 5 draws from Meattle et al. (2022, 2024), OECD DAC CRS, ICAT (2022), and World Bank CPIA.

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Table 2: Five-dimension coding framework: definitions, categories, and application scope

Dimension	Code	Label	Coding Criteria	Applied To
A: Capacity Level Classification	IC	Individual	References target knowledge, skills, or awareness of specific persons: training workshops, number of officials, skills domains, certification outcomes.	All streams
	OC	Organizational	References institutional processes, MRV systems, inter-departmental protocols, performance management, and named institutional mandates	All streams
	SC	Systemic	References enabling environment: legislation, budget integration, inter-agency coordination, subnational mandates, independent oversight	All streams
B: Intervention Logic	IL-A	Input-focused	Success is defined by inputs: workshops held, officials attended, and materials produced. No theory of change connecting to institutional outcomes	Stream 3: Capacity-building program documents, logframes, and evaluations
	IL-B	Output-focused	Success = immediate outputs (trained officials, completed plans). ToC assumes outputs automatically produce institutional change without specifying a mechanism.	
	IL-C	Outcome-focused	Success = organizational/systemic changes: improved MRV, budget integration, coordination mechanisms. ToC explicitly addresses institutional absorption.	
	IL-D	Transformative	Explicitly addresses political economy barriers, incentive structures, and systemic constraints. Reform of incentives alongside skill development	
C: Mainstreaming Depth	MD-1	Cosmetic	NDC/climate mentioned in preamble only; not translated into sector targets, budget lines, or institutional responsibilities	Stream 2: National development plans, MTEFs, sector plans, budget documents
	MD-2	Rhetorical	NDC commitments appear as objectives or goals in sector chapters, but without budget allocations, performance indicators, or named responsibilities	
	MD-3	Partial	Some NDC commitments are linked to budget lines or sector targets; coverage is incomplete, inconsistent across sectors, and not formally monitored.	
	MD-4	Substantive	NDC commitments are systematically reflected across multiple sectors with budget allocations, performance indicators, and named responsibilities; monitoring exists, but implementation is uneven	
	MD-5	Transformative	Full integration into budget cycles, sector performance frameworks, subnational planning; independent oversight, public reporting, accountability mechanisms present	
D: Institutional Specificity	IS-1	None	Capacity/implementation needs mentioned without any reference to specific institutions, coordination mechanisms, or timelines	Stream 1: NDC texts and national implementation plans; Stream 2: Sector ministry plans
	IS-2	Generic	Ministries/agencies mentioned by type without specific mandates, timelines, or accountability mechanisms.	
	IS-3	Named	Specific institutions are named as responsible, but without defined roles, resources, or accountability mechanisms.	
	IS-4	Partial mandate	Named institutions with defined roles but incomplete resource commitments or monitoring frameworks	
	IS-5	Full mandate	Named institutions with defined roles, resource commitments, coordination mechanisms, monitoring frameworks, and accountability structures	

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Dimension	Code	Label	Coding Criteria	Applied To
E: Outcome Measurement Quality	OM-1	None	No indicators or targets for capacity outcomes specified	Streams 3, 4, 5: Program documents, evaluations, BURs/BTRs, independent assessments
	OM-2	Activity only	Success is measured by activities completed (workshops, documents produced) with no reference to quality or institutional uptake.	
	OM-3	Immediate	Indicators capture immediate skill/knowledge changes (pre/post assessments), but not institutional application.	
	OM-4	Intermediate	Captures whether trained individuals applied skills within institutions (policies produced, systems established), but not systemic change	
	OM-5	Long-term	Captures systemic changes (BUR quality improvement, budget integration, disbursement ratios) with attribution mechanisms	

Note. ToC = Theory of Change. Scores of 1–2 indicate the capability trap zone; scores of 3 indicate a transitional zone; scores of 4–5 indicate that institutional absorption capacity is present.

Source: Authors, drawing on Andrews et al. (2017), Brinkerhoff and Morgan (2010), and Lesnikowski et al. (2017).

Table 3: Distribution of intervention logic codes across capacity-building programs by organization (N = 34)

Funding Organization/Program	IL-A	IL-B	IL-C	IL-D	N	Dominant Logic
UNDP Climate Promise	5	2	1	0	8	IL-A: Input/activity tracking dominant; success = officials trained, workshops held
NDC Partnership	2	3	2	1	8	IL-B: Output-focused with isolated IL-C elements in readiness-linked programs
GIZ NDC Assist	1	3	2	0	6	IL-B: Outputs emphasized; some IL-C elements in the MRV institutionalization components
GCF Readiness Programs	1	2	3	0	6	IL-C: GCF institutional requirements drive outcome-oriented logic in accreditation-linked programs
World Bank Climate Programs	2	1	1	0	4	IL-A to IL-B: Technical assistance programs are predominantly input/output oriented
USAID Regional Programs	1	1	0	0	2	IL-A to IL-B: Short-cycle programs with activity-based measurement
Total / Percentage	12 (35%)	12 (35%)	9 (27%)	1 (3%)	34	70% of programs concentrated in IL-A/IL-B; only 30% reaching outcome-oriented logics

Note. IL-A = Input-focused; IL-B = Output-focused; IL-C = Outcome-focused; IL-D = Transformative. Classification based on primary intervention logic of overall program design; programs with mixed elements are classified according to dominant logic.

Sources: (GIZ, 2022; Green Climate Fund, 2024; NDC Partnership, 2022; UNDP, 2023a; UNFCCC, 2024a; World Bank, 2022, 2023)

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WHAT CAPACITY-BUILDING PROGRAMS BUILD

The Intervention Logic Landscape

Analysis of the 34 capacity-building program documents in Stream 3 reveals a pronounced concentration of intervention logics at the individual level, with many programs coded as IL-A (input-focused) or IL-B (output-focused). Table 3 presents the distribution of intervention logic codes across programs, disaggregated by funding organization and country focus. As Andrews et al. (2017) predict for development interventions more broadly, the dominant intervention logic in East African climate capacity-building programs treats individual knowledge acquisition as the terminal objective rather than as an intermediate step toward institutional performance improvement. The few programs reaching IL-C or IL-D logics are notable exceptions that illuminate what more institutionally-oriented programming looks like in practice (Green Climate Fund, 2024; NDC Partnership, 2022).

The concentration of 70 percent of programs in IL-A and IL-B categories is both substantively significant and analytically consistent with the principal-agent account developed in the theoretical framework. The programs most likely to reach IL-C logics are those linked to GCF institutional accreditation requirements, where the downstream access to climate finance creates a concrete institutional incentive for organizational-level capacity development rather than individual training alone (Green Climate Fund, 2024; Haites et al., 2024). This finding is consistent with Eyben's (2013) analysis of how accountability frameworks shape intervention design: where donor accountability requirements specify organizational outcomes (as GCF accreditation does), programs develop outcome-oriented intervention logics; where donor accountability requirements specify activities completed (as most bilateral programs do), programs default to input and output metrics. The single IL-D program in the dataset, an NDC Partnership initiative in Rwanda specifically designed to link capacity-building to Imihigo performance contract reform, represents the exception that demonstrates what transformative intervention logic looks like when institutional reform is explicitly embedded in program design (NDC Partnership, 2022; REMA, 2022).

Outcome Measurement Quality Across Programs

Dimension E coding of outcome measurement frameworks across the 34 program documents reveals a pattern of systematic underinvestment in institutional performance indicators, with most programs relying exclusively on activity and output metrics that cannot capture whether capacity-building investments are producing the institutional changes needed for NDC implementation. Table 4 presents the distribution of OM codes across all analyzed programs, disaggregated by intervention logic category to reveal the relationship between how programs are designed and how they measure success (OECD, 2023; Saldana, 2021). The figure demonstrates that IL-A and IL-B programs overwhelmingly employ OM-1 and OM-2 measurement frameworks, creating a systematic measurement gap where the absence of institutional outcome data makes it impossible to assess whether programs are contributing to NDC implementation progress, regardless of how many individuals are trained.

The diagonal pattern in Table 4, where IL-A programs predominantly employ OM-1 and OM-2 metrics, IL-B programs predominantly employ OM-2 and OM-3 metrics, and IL-C programs predominantly employ OM-4 metrics, reveals that intervention logic and measurement framework are systematically co-determined by program design choices rather than independently specified. This co-determination has an important methodological implication: programs designed at the individual level are structurally incapable of detecting institutional failures because they do not measure institutional outcomes. As Mosse (2004) argues in his ethnographic analysis of development programs,

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the metrics that programs use to measure success also constitute the reality they can perceive; programs that measure only training participation cannot see the institutional stagnation that surrounds the trained officials. Only two programs in the entire corpus employ OM-5 long-term outcome metrics, both from GCF Readiness streams, confirming that the capability trap is also a measurement trap: the system consistently fails to generate the evidence needed to recognize its own underperformance.

Table 4: Outcome measurement quality by intervention logic category (N = 34 programs)

IL Category	OM-1 (None)	OM-2 (Activity)	OM-3 (Immediate)	OM-4 (Intermediate)	OM-5 (Long-term)	N
IL-A (Input)	6	5	1	0	0	12
IL-B (Output)	1	4	5	2	0	12
IL-C (Outcome)	0	1	2	5	1	9
IL-D (Transformative)	0	0	0	0	1	1
TOTAL	7 (21%)	10 (29%)	8 (24%)	7 (21%)	2 (6%)	34

Note. Each cell represents the number of programs receiving the indicated OM code within each IL category. Row and column percentages are calculated relative to the total corpus (N = 34).

Sources: Program documents and evaluation reports.

The Missing Institutional Logic: What Programs Do Not Build

Dimension A coding of all 34 program documents reveals the specific organizational and systemic capacity elements that are consistently absent from intervention logics, providing direct evidence of the gap between what international climate capacity-building builds and what NDC implementation requires. Table 5 presents the frequency of individual (IC), organizational (OC), and systemic (SC) capacity references across program documents by funding organization, revealing systematic patterns of omission that are consistent across donor types and program modalities.

Table 5: Frequency of capacity level references (IC, OC, SC) in program documents by organization

Organization	IC Refs	OC Refs	SC Refs	IC %	OC+SC %	Dominant Gaps
UNDP Climate Promise	87	18	9	76%	24%	Inter-ministerial coordination, budget integration, and local government mandates are absent.
NDC Partnership	62	28	19	57%	43%	Accountability architecture, subnational engagement, independent oversight, and underrepresented
GIZ NDC Assist	54	31	11	56%	44%	Legislative reform, public accountability frameworks, and civil society engagement are absent.
GCF Readiness Programs	41	38	22	41%	59%	Strongest OC+SC profile; accreditation requirements drive institutional focus
World Bank	38	14	6	66%	34%	Budget reform, statutory mandates, and intergovernmental fiscal transfer mechanisms are absent.
USAID	29	7	3	74%	26%	Short project cycles preclude systemic institutional investment; individual-focused throughout
Total References	311	136	70	60%	40%	60% of all references target individual capacity; systemic capacity receives only 13% of references

Note. IC = Individual Capacity references; OC = Organizational Capacity references; SC = Systemic Capacity references. Reference counts are based on paragraph-level coding of program objectives, activities, logframes, and evaluation criteria. Percentages are calculated as a proportion of total capacity references within each organization's programs. The 60%/27%/13% split (IC/OC/SC) represents the aggregate distribution across all 34 programs. Sources: Program documents as listed in Table 1, Stream 3.

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The aggregate finding that 60 percent of capacity references across all programs target individual knowledge and skills, 27 percent target organizational systems, and only 13 percent address systemic enabling conditions provides precise empirical specification of what the theoretical framework predicts. The specific systemic elements most consistently absent are inter-ministerial coordination mechanisms, budget integration support, local government capacity strengthening, legislative reform assistance, and independent accountability frameworks. These absences are not random; they correspond precisely to the elements of institutional absorption capacity identified in Section 2.3 as the preconditions for individual skills to translate into institutional performance. Morgan (2006) identifies mandate clarity and resource alignment as the foundational requirements for organizational capacity to function, yet Table 5 demonstrates that the international climate capacity-building system largely fails to address these foundational requirements, investing instead in the individual skills that can only be effectively applied once the organizational and systemic foundations are in place (Brinkerhoff & Morgan, 2010; UNDP, 2009).

WHAT NDC IMPLEMENTATION REQUIRES

Comparative NDC Institutional Specificity

Analysis of the eight NDC texts across two generations for all four countries using Dimension D (Institutional Specificity) reveals a persistent pattern of weak institutional specification that has improved modestly between first and second generation NDCs but remains predominantly at IS-2 and IS-3 levels across all cases. Table 6 presents institutional specificity scores for key NDC components across both NDC generations, enabling longitudinal and cross-country comparison. The scores reveal that while all four countries have made progress in naming responsible institutions, the specification of mandates, resources, coordination mechanisms, and accountability structures remains incomplete, confirming the rules-in-form versus rules-in-use gap that the theoretical framework predicts(Ostrom, 1990, 2009; UNFCCC, 2022, 2024a).

Three findings from Table 6 warrant extended discussion. First, budget and finance integration receives the lowest institutional specificity scores of any component across all countries except Rwanda, with Tanzania and Uganda's first NDCs receiving IS-1 scores, meaning NDC financial requirements are mentioned without any institutional reference whatsoever. This finding is particularly consequential because, as the (Meattle et al., 2022, 2024) documents, the gap between NDC financial requirements and actual climate expenditures in East Africa is primarily an institutional problem governments have not created the budget tagging systems, MTEF linkages, and ministerial accountability frameworks that would translate NDC financial commitments into actual budget allocations (African Development Bank, 2023; Savvidou et al., 2021). Without institutional specification at the NDC text level, there is no formal mandate for the budget integration that NDC implementation requires.

Second, subnational and local government mandates receive the weakest institutional specification of any component across all four countries, with Tanzania and Uganda's first NDCs receiving IS-1 scores and no country reaching IS-4 on this dimension. This finding is analytically significant because the majority of adaptation actions that directly address the climate vulnerabilities of East African populations, such as smallholder farmer support, water resource management, coastal protection, urban heat management are implemented at the subnational level by county governments, district administrations, and municipal authorities (Global Center on Adaptation, 2023; Ijjasz-Vasquez, et al., 2024). Capacity-building programs that train national ministry officials cannot address this implementation gap without the institutional

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specification that assigns clear mandates and resources to subnational authorities (McGinnis, 2011; Tompkins & Adger, 2004). Third, Rwanda's distinctly higher composite IS score of 3.6, compared to Kenya's 3.1, Uganda's 2.4, and Tanzania's 1.9 for their respective second NDCs reflects a pattern of more institutionally specific NDC design that is consistent with Rwanda's broader governance culture of explicit institutional mandate assignment through mechanisms like the Imihigo performance contract system (REMA, 2022; World Bank, 2022).

Table 6: NDC institutional specificity scores (IS-1 to IS-5) by country, NDC generation, and component

NDC Component	KE 1st NDC	KE 2nd NDC	TZ 1st NDC	TZ 2nd NDC	UG 1st NDC	UG 2nd NDC	RW 2nd NDC
Lead Institutional Responsibility	IS-3	IS-4	IS-2	IS-3	IS-2	IS-3	IS-4
Inter-Ministerial Coordination Mechanism	IS-2	IS-3	IS-1	IS-2	IS-2	IS-3	IS-4
MRV System Institutional Mandate	IS-3	IS-4	IS-2	IS-2	IS-2	IS-3	IS-4
Budget/Finance Integration	IS-2	IS-3	IS-1	IS-2	IS-2	IS-2	IS-4
Subnational/Local Govt Mandate	IS-2	IS-2	IS-1	IS-1	IS-1	IS-2	IS-3
Private Sector Engagement Framework	IS-3	IS-3	IS-2	IS-2	IS-1	IS-2	IS-3
Independent Oversight/Accountability	IS-2	IS-3	IS-1	IS-1	IS-1	IS-2	IS-3
Composite IS Score (mean)	2.4	3.1	1.4	1.9	1.6	2.4	3.6
Change from 1st to 2nd NDC	+0.7 (modest improvement)		+0.5 (marginal improvement)		+0.8 (modest improvement)		N/A

Note. IS scores were assessed through paragraph-level coding of NDC texts using Dimension D criteria (Table 2). Scores range from IS-1 (no institutional reference) to IS-5 (full mandate specification). KE = Kenya; TZ = Tanzania; UG = Uganda; RW = Rwanda (Rwanda's first NDC was not included as it predated the Paris Agreement framework; only the 2020 updated NDC was analyzed). Composite score is the unweighted mean across seven components. Colour coding: red = IS-1 to IS-2; amber = IS-3; green = IS-4 to IS-5.

Sources: (Government of Kenya, 2021, 2023; Government of Rwanda, 2020; Government of Tanzania, 2021; Government of Uganda, 2022)

Mainstreaming Depth Across National Systems

Analysis of the 20 national development plans, sector strategies, and MTEF documents in Stream 2 using Dimension C (Mainstreaming Depth) reveals that NDC mainstreaming across East African national systems is predominantly rhetorical and partial, with only isolated evidence of substantive mainstreaming and no evidence of transformative integration in any country. Table 7 presents mainstreaming depth scores by country and document type, revealing both the cross-country variation and the within-country inconsistency that characterizes the current mainstreaming landscape. As Lesnikowski et al. (2017) demonstrate in their cross-national analysis of adaptation implementation, depth of institutional integration is a stronger predictor of implementation progress than the nominal existence of climate plans or the volume of individual-level training, a finding that Table 7 substantiates in the East African context.

The cross-country variation in composite mainstreaming depth scores, Rwanda (3.3), Kenya (2.9), Uganda (2.3), Tanzania (1.7) mirrors the variation in NDC implementation performance observed across the region and supports the third analytical hypothesis that organizational and systemic capacity conditions are more strongly associated with implementation outcomes than individual capacity-building investment volume.

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Tanzania's composite score of 1.7 is particularly significant given its substantial engagement with international capacity-building programs: the absence of NDC integration in key budget documents (MTEF scoring MD-1) and transport sector plans (MD-1) despite multiple training programs suggests that individual capacity has not translated into the institutional routines needed for systemic mainstreaming (Government of Tanzania, 2021; ICAT, 2023). As Booth (2011) argues in his analysis of development effectiveness, the absence of domestic political economy incentives for institutional reform, rather than the absence of technical knowledge, is the primary driver of persistent implementation gaps in contexts like Tanzania's.

Table 7: NDC mainstreaming depth scores (MD-1 to MD-5) by country and document type

Document Type / System	Kenya	Tanzania	Uganda	Rwanda
National Development Plan	MD-3	MD-2	MD-3	MD-4
Medium-Term Expenditure Framework	MD-2	MD-1	MD-2	MD-4
Environment Sector Plan	MD-4	MD-3	MD-3	MD-4
Energy Sector Plan	MD-4	MD-2	MD-3	MD-3
Agriculture Sector Plan	MD-3	MD-2	MD-2	MD-3
Transport Sector Plan	MD-2	MD-1	MD-2	MD-2
Subnational/County Climate Plans	MD-2	MD-1	MD-1	MD-3
Composite MD Score (mean)	2.9	1.7	2.3	3.3
Highest-scoring document type	Energy & Environment (MD-4)	Environment Sector Plan (MD-3)	NDP III & Environment Plan (MD-3)	NDP, MTEF, Environment (MD-4)
Weakest area across all countries	Subnational/local government climate mandates and transport sector integration (predominantly MD-1 to MD-2 across all cases)			

*Note. MD scores were assessed through section-level coding of planning and budget documents using Dimension C criteria (*Table 2*). Scores range from MD-1 (cosmetic mainstreaming) to MD-5 (transformative integration). No country scored MD-5 on any document type. Composite score is the unweighted mean across seven document types.*

Sources: (Government of Kenya, 2021, 2023; Government of Rwanda, 2020; Government of Tanzania, 2021; Government of Uganda, 2022; MINECOFIN, 2022).

The Budget-NDC Disconnect: Quantitative Evidence

The mainstreaming depth analysis is reinforced by quantitative secondary data on climate finance flows and budget-NDC alignment that provides measurable outcome indicators for the systemic capacity gaps identified through document coding. Table 8 presents comparative quantitative indicators of budget-NDC integration and climate finance performance across the four countries, drawing from Meattle et al. (2022, 2024), OECD (2023), the World Bank (2023), and the Global Center on Adaptation (2023). These indicators represent the outcome dimension of the capability trap, the measurable consequences of weak organizational and systemic capacity for translating NDC commitments into fiscal action and finance mobilization (Buchner et al., 2021; Savvidou et al., 2021).

The quantitative indicators in Table 8 corroborate the mainstreaming depth assessments in Table 8 with remarkable consistency. Rwanda's superior performance on institutional capacity proxies highest budget alignment (54%), highest disbursement ratio (67%), highest ICAT MRV score (72), fastest GCF approval times (22 months) mirrors its highest mainstreaming depth scores and highest NDC institutional specificity scores, providing convergent validity for the coding framework as a measure of institutional conditions that genuinely predict finance mobilization and implementation performanc. Tanzania's consistent bottom-ranking position across almost all indicators 21% budget alignment, 44% disbursement ratio, 38 ICAT score, 38-month GCF approval despite

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receiving substantial individual-level capacity-building investment from multiple donors, constitutes the most direct empirical evidence for the capability trap hypothesis: the absence of organizational and systemic capacity conditions prevents individual capacity from translating into institutional performance regardless of training investment (Andrews et al., 2017; Morgan, 2006).

The consistently low percentage of climate finance reaching local governments across all four countries, ranging from 6 percent in Tanzania to 14 percent in Rwanda, is particularly significant given that the subnational IS scores in Table 8 are the weakest across all NDC components in every country. This convergence between the document analysis finding (weak subnational institutional specification) and the quantitative outcome (minimal local government finance flows) demonstrates the mechanism through which the rules-in-form versus rules-in-use gap manifests in real resource flows: when NDC texts do not specify subnational mandates with accompanying resource commitments (IS-1 to IS-2), national budget systems have no formal basis for allocating climate finance downward, and local governments remain outside the climate finance architecture regardless of how many national officials have been trained (Fox, 2015; Gaventa & McGee, 2013; Global Center on Adaptation, 2023). The adaptation-mitigation finance imbalance all four countries receive more mitigation than adaptation finance despite adaptation-heavy NDC requirements, further illustrates the systemic misalignment between what NDCs require institutionally and what the international climate finance architecture delivers, a finding consistent with Savvidou et al. (2021) and Meattle et al. (2024) at the continental level.

Table 8: Quantitative Indicators of Budget-NDC Integration and Climate Finance Performance by Country

Indicator	Kenya	Tanzania	Uganda	Rwanda
% sector ministries with NDC-aligned budgets	38%	21%	29%	54%
Climate finance disbursement ratio (committed → disbursed)	58%	44%	51%	67%
% climate finance reaching local governments	9%	6%	8%	14%
GCF project approval time (months, average)	28	38	34	22
Adaptation: Mitigation finance ratio (actual)	35:65	28:72	31:69	42:58
ICAT MRV System Quality Score (0–100)	61	38	44	72
BUR/BTR quality completeness rating	Moderate-High	Low	Low-Moderate	High
World Bank CPIA Environmental Sustainability (1–6)	3.5	3.0	3.2	4.0

Note. All figures represent the most recent available data (2022–2024). Budget alignment figures draw from GEPC (2024) and AfDB (2023). Disbursement ratios from CPI (2022, 2024) and Savvidou et al. (2021). Local government share from GCA (2023) and Brookings (2022). GCF approval timelines from the GCF project database (2023). Adaptation: Mitigation ratios from CPI (2024) and OECD (2023). ICAT scores from ICAT (2022); BUR/BTR quality from UNFCCC reporting portal. CPIA scores from World Bank (2023).

CAPABILITY TRAP IN ACTION: CROSS-COUNTRY COMPARATIVE ANALYSIS

The above discussions established the two sides of the capability trap in East African climate governance: the supply side, where international programs concentrate at the individual capacity level; and the demand side, where NDC mainstreaming remains predominantly rhetorical and where institutional specificity is insufficient to drive implementation. This section synthesizes these findings through a structured cross-country comparison, demonstrating how the capability trap operates differently with varying intensity and different institutional mediating factors across the four cases. The comparative analysis tests the third analytical hypothesis: that variation in NDC implementation performance is more strongly associated with variation in organizational and

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systemic capacity conditions than with the volume of individual-level capacity-building investment received (George & Bennett, 2005; Mahoney & Thelen, 2010). Table 9 presents the aggregate capability trap diagnostic profile for all four countries, integrating the coding results from Sections 4 and 5 into a single comparative framework that makes the cross-country patterns immediately visible.

Table 9 reveals three patterns of analytical significance. First, all four countries score below 3.5 on every dimension, confirming that the capability trap operates across the entire region rather than being confined to the weakest performers. Even Rwanda, the highest-performing case, does not exceed a composite score of 3.1, meaning that no country has reached the threshold of substantive institutional capacity on aggregate (Andrews et al., 2017; Lesnikowski et al., 2017). Second, the gap between supply-side scores (Dimensions A–B) and demand-side scores (Dimensions C–D) is systematically smaller than expected, suggesting that the problem is not simply that programs are misaligned with what NDCs require, but that both programs and NDC frameworks are simultaneously weak on institutional specification a finding that reinforces the isomorphic mimicry diagnosis (DiMaggio & Powell, 1983; Andrews et al., 2017). Third, the strongest predictor of NDC implementation performance rank is Dimension D (Institutional Specificity), followed by Dimension C (Mainstreaming Depth), with the supply-side dimensions (A and B) showing the weakest association with implementation outcomes providing direct empirical support for the hypothesis that organizational and systemic conditions outweigh individual capacity investment as determinants of implementation performance (Morgan, 2006; Brinkerhoff & Morgan, 2010).

Table 9: Aggregate capability trap diagnostic profile: composite scores across five analytical dimensions by country

Analytical Dimension (Scale 1–5)	Kenya	Tanzania	Uganda	Rwanda
A. Capacity Level in Programs (IC→SC)	2.4	2.2	2.3	2.8
B. Intervention Logic (IL-A→IL-D)	2.3	2.1	2.2	2.9
C. NDC Mainstreaming Depth (MD-1→MD-5)	2.9	1.7	2.3	3.3
D. NDC Institutional Specificity (IS-1→IS-5)	3.1	1.9	2.4	3.6
E. Outcome Measurement Quality (OM-1→OM-5)	2.5	2.0	2.1	2.9
Composite Score (Mean all dimensions)	2.64	1.98	2.26	3.10
Capability Trap Classification	Moderate Trap	Deep Trap	Moderate Trap	Transitional
NDC Implementation Performance Rank	2nd	4th	3rd	1st

Note. Dimension scores represent composite means derived from coding results reported in Sections 4 and 5. Dimensions A–B reflect the capacity-building supply analysis (Section 4); Dimensions C–D reflect the NDC demand analysis (Section 5); Dimension E reflects outcome measurement quality across both program and government documents. Bar charts use filled blocks (■) to indicate score magnitude on a 1–5 scale.

Rwanda: Partial Escape from the Capability Trap

Rwanda presents the most institutionally advanced climate governance architecture among the four cases, and the comparative analysis reveals that this advantage is attributable not primarily to greater capacity-building investment Rwanda's per-capita international climate support is comparable to Uganda's but to the distinctive institutional absorption infrastructure that Rwanda's broader governance system provides. The Imihigo performance contract system, introduced in 2006 as a presidential accountability mechanism linking district and sector performance to measurable targets, has been progressively adapted to incorporate climate commitments, creating a formal

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institutional channel through which NDC targets are translated into sub-national performance obligations (World Bank, 2022; REMA, 2020). This represents precisely the kind of systemic capacity that the framework terms accountability architecture that is consistently absent from international capacity-building programs yet is most predictive of implementation performance (Fox, 2015; Gaventa & McGee, 2013).

Table 10 presents a detailed institutional absorption capacity assessment for Rwanda, examining the four conditions: mandate clarity, resource alignment, coordination infrastructure, and accountability architecture against documentary evidence from Rwanda's NDC implementation framework. The assessment reveals that Rwanda's relatively stronger performance is concentrated in mandate clarity and accountability architecture, while resource alignment and subnational coordination infrastructure remain significantly underdeveloped, suggesting that even the region's strongest performer is far from having resolved the capability trap (Government of Rwanda, 2020; Green Climate Fund, 2024; REMA, 2022).

Table 10: Institutional absorption capacity assessment: Rwanda

IAC Condition	Score	Documentary Evidence (Strengths)	Documented Gaps
Mandate Clarity	4/5	Climate Change and Nature Protection Law (2021) assigns explicit sectoral mandates; REMA has statutory authority over NDC coordination; sector ministry climate focal points formally designated with ToRs.	Subnational mandate assignment incomplete; private sector obligations unclear; enforcement mechanisms for non-compliant ministries absent
Resource Alignment	3/5	MINECOFIN climate budget tagging system operational since 2015; Green Fund established with parliamentary oversight; NDC financial requirements reflected in MTEF (partial coverage)	54% budget alignment leaves nearly half of sector ministries without NDC-linked expenditure lines; local government climate transfers are systematically underfunded (14% of requirements)
Coordination Infrastructure	3/5	Inter-Ministerial Committee on Climate Change (IMCCC) meets quarterly; NDC Partnership focal point system operational; EAC regional coordination participation active.	IMCCC decisions are non-binding; data sharing protocols between REMA and sector ministries are inconsistent; district-level coordination with national systems is fragmented
Accountability Architecture	4/5	Imihigo performance contracts embed climate targets at the district level; annual public performance reviews; a parliamentary climate oversight committee established in 2021; civil society NDC monitoring framework is active.	Independent audit of NDC progress not yet institutionalized; public grievance mechanism for climate non-performance absent; corporate climate accountability framework at an early stage.
COMPOSITE IAC SCORE	3.5/5	Transitional: above regional average on all four conditions; most advanced accountability architecture in the region	Persistent gaps in resource alignment and subnational coordination prevent full institutional absorption of capacity-building investments.

Note. IAC = Institutional Absorption Capacity. Scores are assessor judgments derived from documentary coding across Streams 1, 2, and 4. Scale: 1 = absent; 2 = nascent; 3 = partial; 4 = developed; 5 = fully institutionalized.

Sources: (Government of Rwanda, 2020; Green Climate Fund, 2024; Meattle et al., 2022; MINECOFIN, 2022; REMA, 2022; World Bank, 2022).

Rwanda's experience demonstrates both the possibility and the limits of partial escape from the capability trap. Its Imihigo-anchored accountability architecture represents a genuinely endogenous institutional solution, one that grew from Rwanda's pre-existing governance culture rather than from external program design, providing a concrete illustration of what institutional absorption capacity looks like when it is present (Andrews et al., 2017; Booth, 2011). The World Bank (2022) attributes

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Rwanda's faster GCF project approval timelines (22 months versus the regional average of 31 months) directly to the institutional coherence that REMA's statutory mandate and the budget tagging system provide, confirming the finance mobilization benefits of organizational and systemic capacity. However, Rwanda's composite IAC score of 3.5 also demonstrates that even the region's strongest performer remains in the transitional zone rather than having fully institutionalized the conditions for effective NDC implementation. Resource alignment at 54 percent budget coverage and local government climate finance at 14 percent of requirements are the most acute remaining gaps, suggesting that the next frontier of institutional development for Rwanda is the fiscal integration and subnational governance dimensions that the current architecture leaves underspecified.

Kenya: The Paradox of Capacity Without Coherence

Kenya presents the most analytically interesting case for the capability trap thesis because it combines the region's most sophisticated individual capacity infrastructure with persistent organizational and systemic capacity failures that prevent that individual capacity from being institutionally absorbed. Kenya has the most comprehensive climate policy architecture in the region the Climate Change Act 2016 (amended 2023), the National Climate Change Action Plan 2023–2027, the Energy Transition and Investment Plan, and the National Adaptation Plan alongside the most highly trained cadre of climate governance officials, produced by decades of engagement with international capacity-building programs (Government of Kenya, 2021, 2023; ICAT, 2023). Yet its composite IAC score of 2.64 and its 38 percent budget alignment ratio indicate a profound capacity- institution gap that the volume of individual training has not resolved (African Development Bank, 2023; Meattle et al., 2024; World Bank, 2023).

Table 11 presents a detailed capability trap pathway analysis for Kenya, tracing the specific institutional mechanisms through which individual capacity fails to translate into organizational and systemic performance. The analysis reveals three structural bottlenecks: coordination fragmentation across the 47-county devolved system; budget-NDC decoupling driven by the absence of mandatory climate budget tagging in the Public Finance Management Act; and accountability architecture gaps where the Climate Change Act's oversight provisions have not been operationalized with sufficient independence and resources (Ostrom, 1990; Howlett et al., 2009; Government of Kenya, 2021)Kenya's case is analytically important because it contradicts a common assumption in the capacity-building literature: that sufficient accumulation of individual capacity will eventually produce institutional change through a critical mass effect (Baser & Morgan, 2008; UNDP, 2009).

The evidence from Kenya suggests the opposite that without the organizational and systemic conditions that enable institutional absorption, additional individual capacity investment produces diminishing returns and may even generate perverse effects, as trained officials develop expectations of institutional performance that their governance systems cannot fulfill, contributing to what Hirschman (1970) terms exit behavior highly trained officials leaving public service for better-resourced international organizations and NGOs where their skills can be meaningfully applied (Andrews et al., 2017; Booth, 2011). Kenya's NDC implementation requires a qualitative shift from individual to systemic investment: specifically, mandatory climate budget tagging legislation, an intergovernmental fiscal transfer mechanism for county climate action, and operationalization of the Climate Change Council's enforcement authority (Government of Kenya, 2021; GCA, 2023).

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Table 11: Kenya capability trap pathway analysis: from individual capacity to institutional bottlenecks

Capacity Level	What Exists	The Bottleneck	Documentary Evidence of Gap
Individual (IC)	Highly trained climate officials in MoEF, National Treasury, sector ministries; NDC focal points in all major ministries; GHG inventory team with strong technical competency	Skills exist, but officials operate within systems that do not mandate, resource, or reward the application of those skills to NDC delivery.	NCCAP 2023–27 identifies 168 priority actions but assigns budget to fewer than 60; trained Treasury officials cannot integrate NDC targets into MTEF without a legislative mandate for climate budget tagging (CPI, 2024; Government of Kenya, 2023)
Organizational (OC)	Climate Change Directorate established; National Climate Change Council functional; county-level climate units in 18 of 47 counties.	Inter-agency coordination is non-binding; county climate units are underfunded and technically isolated; the Climate Change Council lacks enforcement authority.	Only 38% of sector ministries align annual budgets with NDC priorities despite the Climate Change Council mandate; county climate units receive less than 3% of climate finance despite devolved implementation responsibility (GEPC, 2024; GCA, 2023)
Systemic (SC)	The Climate Change Act 2016 provides a statutory framework; the Finance for SDGs Act 2023 creates an entry point for climate budget tagging; the NDC submitted with conditional and unconditional components.	Climate budget tagging is not mandatory; devolution creates a 47-county implementation landscape without adequate fiscal transfer architecture; private sector climate obligations are not legislated.	Kenya requires USD 62 billion for NDC implementation, but mobilizes less than 12% annually; 29 of 47 counties have no climate finance access; GCF project approval averages 28 months despite NDA capacity investment (UNFCCC, 2023; World Bank, 2023; GCF, 2023)

Tanzania and Uganda: Shallow Mainstreaming and Persistent Traps

Tanzania and Uganda represent two variants of a common pattern: extensive engagement with international capacity-building programs alongside persistently shallow NDC mainstreaming and weak institutional absorption capacity. While Uganda shows slightly stronger performance than Tanzania on most indicators reflected in its composite score of 2.26 versus Tanzania's 1.98, both countries demonstrate the deep capability trap dynamic where the absence of organizational and systemic foundations prevents individual training investments from producing institutional change. Table 12 presents a comparative institutional gap analysis for Tanzania and Uganda, identifying the specific missing institutional conditions that distinguish their performance from Rwanda's and Kenya's (Booth, 2011; Government of Tanzania, 2021; Government of Uganda, 2022; ICAT, 2023).

Tanzania's case is particularly instructive because it represents a situation where isomorphic mimicry is most advanced. The country has participated in virtually every major international climate capacity-building program, produces NDC documents that conform to international templates, and maintains the nominal institutional architecture of climate governance (steering committee, focal points, NDC implementation unit) while the functional reality of these institutions is profoundly hollow (DiMaggio & Powell, 1983; Andrews et al., 2017).

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Table 12: Comparative institutional gap analysis: Tanzania and Uganda, missing conditions for NDC implementation

Institutional Condition	Tanzania: Status and Gap	Uganda: Status and Gap
Climate Legislation	No standalone climate change legislation; NDC coordination fragmented across the Vice President's Office (environment), Ministry of Finance (planning), and sector ministries without a statutory hierarchy. The Draft Climate Change Act has been stalled since 2019	Climate Change Act 2021 enacted — a significant advance over Tanzania. However, implementing regulations are incomplete; institutional mandates in the Act are not yet operationalized through ministerial instruments as of 2023
Climate Budget Integration	MTEF scores MD-1 (cosmetic). Climate budget tagging was piloted in three sectors (2015–18) but was discontinued due to insufficient Treasury capacity to sustain the system. NDC financial requirements are not reflected in the budget framework papers	The Green National Accounts framework was adopted but not fully operationalized. Climate budget tagging is progressing in the environment and energy sectors, but is absent in agriculture, transport, and water — the highest-adaptation-spending sectors.
Inter-ministerial Coordination	The National Climate Change Steering Committee exists on paper but has not convened since 2021. Coordination function absorbed into the Vice President's Office with insufficient authority over line ministries. Climate focal points without terms of reference	The Climate Change Department (Ministry of Water and Environment) has a coordination mandate but no non-binding authority. The Inter-ministerial NDC Technical Working Group was established in 2022, promising, but it only met twice by end-2023
MRV Institutional Capacity	ICAT score 38/100 — lowest in the region. The GHG inventory team is trained through multiple programs but lacks a dedicated budget, data management systems, or institutional mandate for regular reporting. BUR 3 submitted 4 years late	ICAT score 44/100. GHG inventory function shared between the Ministry of Water and NEMA — split responsibility creates gaps. Two GCF Readiness programs have strengthened technical skills, but not resolved the institutional home for the MRV system.
Subnational Climate Mandate	Regional and district governments have no formal climate mandate. Less than 6% of climate finance reaches the subnational level. Tanzania's 31 regions have no climate coordination mechanism with the central government.	District Environmental Officers exist but lack a climate-specific mandate, resources, or performance targets. Uganda's 146 districts are effectively excluded from NDC implementation architecture despite being primary delivery agents for adaptation actions.
Accountability Architecture	No parliamentary climate committee; no independent NDC progress review; civil society engagement in NDC monitoring is ad hoc and underfunded. Public access to climate implementation data is limited.	The Parliamentary Natural Resources Committee has a climate oversight mandate but lacks technical capacity for scrutiny. NDC monitoring framework published (2022, but government reporting against it is inconsistent. Civil society engagement mechanisms are underdeveloped.
Composite IAC Assessment	Deep Trap — all six conditions are either absent or severely underdeveloped. Capacity-building investment concentrated at the IC level has not produced OC or SC improvements over the 2015–2023 period.	Moderate-Deep Trap: Climate Change Act 2021 represents genuine SC progress, but OC and accountability architecture remain weak. Risk of the Act becoming rules-in-form without rules-in-use without sustained institutional investment
Note. Status assessments derived from documentary coding of Streams 1, 2, and 4 for Tanzania and Uganda.		

Sources: (Cleaver, 2017; Government of Tanzania, 2021; Government of Uganda, 2022; Green Climate Fund, 2024; ICAT, 2023; Khalifa, 2025; World Bank, 2023).

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The discontinuation of the climate budget tagging system trained with donor support and then abandoned when that support ceased is perhaps the clearest example in the dataset of the individual-organizational-systemic capacity gap: individual capacity to operate the system was developed, but the organizational mandate, budget, and institutional home needed to sustain it were never established, producing precisely the "premature load bearing" that Andrews et al. (2017) identify as the terminal condition of the capability trap. Uganda's Climate Change Act 2021 represents a genuine, endogenously-driven advancement in systemic capacity that distinguishes it from Tanzania and provides a potential pathway out of the moderate-deep trap but only if the implementing regulations, ministerial instruments, and institutional mandates that give the Act operational content are developed with sustained investment in organizational capacity rather than individual training (Ostrom, 1990; Mahoney & Thelen, 2010).

Structural Production of the Capability Trap: A Cross-Case Synthesis

The cross-case analysis enables identification of the structural mechanisms through which the capability trap is produced and reproduced across all four countries, despite their variation in governance quality and implementation performance. Table 13 presents a causal pathway diagram of the capability trap mechanism, synthesizing the comparative evidence into an analytical model that specifies the interactions between donor incentive structures, recipient government behaviors, and institutional outcomes (Booth, 2011; Eyben, 2013; Andrews et al., 2017). This model constitutes the paper's primary theoretical contribution: a causally specified account of how the capability trap is structurally produced rather than accidentally occurring.

Table 13: Causal pathway model: the structural production of the capability trap in East African NDC implementation

Stage 1: Donor System	Stage 2: Program Design	Stage 3: Recipient Response	Stage 4: Institutional Outcome
Donor accountability demands short-term, attributable, countable results → Project cycles of 2–5 years → Logframes require activity metrics → Institutional change is too slow to measure within cycles Evidence: 70% IL-A/IL-B; OM-1/OM-2 dominant	Programs default to individual training as the primary intervention mode → Workshops, study tours, technical manuals → No mandate/budget for OC or SC investment → Theory of change assumes IC → performance Evidence: 60% IC refs; OC/SC systematically absent	Governments comply with program requirements without restructuring institutional incentives → Officials attend training (IC accumulates) → Coordination units created nominally → NDC documents produced to template Evidence: IS-1/IS-2 NDC specs; MD-1/MD-2 mainstreaming	Capability trap reproduced: individual capacity without institutional change → Trained officials in unchanged systems → NDC budgets unaligned, mandates weak → Finance disbursement gaps persist Evidence: <54% budget alignment; <67% disbursement; <14% to LGs
Rwanda Exception: Imihigo performance contract system provides an endogenous accountability architecture that partially short-circuits Stage 3 → Stage 4 bottleneck, translating NDC targets into subnational performance obligations without relying on donor program design. This endogenous institutional solution — not greater capacity-building investment — explains Rwanda's relatively stronger performance (World Bank, 2021; REMA, 2020; Andrews et al., 2017).			
Note. ***Error! Not a valid result for table.*** *presents the capability trap as a four-stage causal pathway rather than a static condition. The pathway is self-reinforcing: Stage 4 outcomes (IC without OC/SC) generate donor reports showing activity completion, which satisfy Stage 1 accountability requirements, which reproduce Stage 2 program designs, cycling continuously without producing institutional change. The Rwanda exception demonstrates that the cycle can be partially broken at Stage 3 when endogenous institutional conditions provide the absorption infrastructure that donor programs do not build.*			

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DISCUSSION AND IMPLICATIONS

Theoretical Contribution

This paper makes three interconnected theoretical contributions to the climate governance and development effectiveness literatures. The first is the three-level analytical framework that operationalizes the capability traps concept for the specific context of NDC implementation, providing the first systematic taxonomy of individual, organizational, and systemic capacity levels with operationalized coding criteria applicable to documentary evidence. While related distinctions appear in the broader capacity development literature, notably in Morgan (2006), Brinkerhoff and Morgan (2010), and UNDP (2009), these frameworks have not been operationalized for comparative documentary analysis of climate governance systems, and have not been applied to the specific institutional architecture of NDC implementation. The framework's five-dimension coding structure, demonstrated across a 94-document corpus with inter-rater reliability coefficients ranging from 0.76 to 0.82, provides a methodologically replicable instrument for future comparative research in this domain (Saldaña, 2021; Yin, 2018).

The second contribution is the institutional absorption capacity concept, which advances beyond the capability traps diagnosis by theorizing the specific organizational and systemic conditions through which individual skills either translate or fail to translate into institutional performance. By integrating Cohen and Levinthal's (1990) absorptive capacity concept developed for private sector innovation with Chambers's (1994, 2005) institutional change framework and Ostrom's (1990, 2005) rules-in-use analysis, the paper provides a richer causal account than existing frameworks offer. The four conditions of institutional absorption capacity mandate clarity, resource alignment, coordination infrastructure, and accountability architecture, which are empirically grounded in the comparative case analysis and provide the basis for the actionable recommendations. This concept is explicitly positioned as a bridge between the general capability traps framework and the specific institutional requirements of climate governance, filling a gap that Termeer et al. (2017) and Pelling et al. (2015) identify but do not resolve (Folke et al., 2005; Pahl-Wostl, 2009).

The third contribution is empirical: the first systematic comparative document analysis applying a structured coding framework to NDC implementation across four East African countries simultaneously. Existing literature on NDC implementation in Africa is dominated either by global aggregate analyses (UNEP, 2023; UNFCCC, 2023) that cannot capture the institutional specificity needed for actionable reform recommendations, or by single-country case studies (Kithiia, 2011) that lack the comparative leverage to identify structural patterns across governance contexts. This paper's meso-level comparative approach demonstrates that the capability trap is a regional pattern produced by structural features of the international climate capacity-building system rather than a country-specific governance failure, with important implications for how reform should be framed and where responsibility for change should be located.

Policy Implications: Reforming the Capacity-Building Architecture

The findings of this paper generate policy implications at three levels: the design of individual capacity-building programs; the architecture of the international climate capacity-building system; and the domestic institutional reform agendas of East African governments. Table 14 presents these implications systematically, organized by the three capacity levels of the analytical framework and the four institutional absorption capacity conditions, specifying the reform required, the responsible actors, and the entry points available within the current climate governance architecture.

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Implications for the New Collective Quantified Goal

The paper's findings have direct relevance to the ongoing negotiations on the New Collective Quantified Goal (NCQG) for climate finance, which was established at COP29 in Baku in November 2024 with a commitment to mobilize at least USD 300 billion annually for developing countries by 2035 (UNFCCC, 2024a, 2024b). The capability trap analysis suggests that simply increasing the quantum of climate finance, whether through grants, concessional loans, or private mobilization, will not resolve the institutional absorption gaps that currently prevent existing commitments from being disbursed and deployed effectively (Haites et al., 2024; Savvidou et al., 2021).

The NCQG negotiations have been criticized for focusing disproportionately on the volume of finance mobilized rather than on the institutional conditions for its effective absorption (Bhattacharya et al., 2020; Carty & Kowalzig, 2022). This paper provides systematic empirical evidence that the four East African countries studied cannot effectively absorb additional climate finance without prior or simultaneous investment in the organizational and systemic capacity conditions, budget integration, coordination infrastructure, subnational mandates, and accountability architecture that constitute institutional absorption capacity.

The NCQG provides three specific entry points for the reforms this paper recommends. First, the transparency and accountability pillar of the NCQG framework should explicitly require recipient countries to demonstrate institutional absorption capacity operationalized through the four conditions of the IAC framework as a condition for accessing enhanced concessional finance, creating an incentive for systemic institutional investment that the current climate finance architecture lacks (Buchner et al., 2021; OECD, 2023). Second, the NCQG's capacity-building finance component, expected to represent a significant share of overall commitments, should be explicitly redesigned around the institutional absorption capacity framework, shifting from individual training to systemic institutional investment as the primary mode of capacity-building finance(Green Climate Fund, 2024; NDC Partnership, 2022). Third, the NCQG's adaptation finance sub-goal should include an explicit floor for subnational finance delivery, a minimum percentage of adaptation finance required to reach the local government level, accompanied by technical support for the intergovernmental fiscal transfer mechanisms that the comparative analysis identifies as the most acute systemic gap across all four countries.

While the comparative analysis focuses on four East African countries, the structural drivers of the capability trap identified in this paper, donor accountability frameworks that reward activity over institutional change, recipient government incentives to demonstrate compliance without structural reform, and the systematic underdevelopment of organizational and systemic capacity in international programs are not East Africa-specific. Comparable patterns have been documented in West Africa (Savvidou et al., 2021, 2021), Southern Africa (Chambwera et al., 2014; Trisos et al., 2022), and South Asia (Dubash, 2021; Pauw et al., 2020). The Malabo Declaration (2014) on agriculture transformation and the Agenda 2063 framework's climate commitments (African Union, 2015) both identify institutional integration and systemic governance reform as prerequisites for delivering on continental climate commitments, a diagnosis fully consistent with this paper's findings. The institutional absorption capacity framework and the five-dimension coding methodology are explicitly designed for replication beyond East Africa, and the authors invite comparative application to West and Southern African NDC implementation contexts where comparable document corpora are available.

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Table 14: Policy recommendations matrix: reforming climate capacity-building architecture across three levels

Level	Reform Required	Specific Actions	Lead Actors	Entry Point
Individual Capacity (IC)	Reorient beneficiary selection toward institutional leverage positions	Select training beneficiaries based on their position to drive OC/SC change (budget officers, parliamentary staff, NDA heads) rather than technical specialists alone	Donors, NDC Partnership	Program design revision; NDC Partnership country engagement plans
	Extend training to include institutional reform competencies	Build skills in budget advocacy, legislative drafting, accountability system design, and political economy analysis alongside technical climate skills	GIZ, UNDP, academic partners	Curriculum redesign in existing programs; university partnership
Organizational Capacity (OC)	Fund MRV system institutionalization, not just MRV training	GCF Readiness and NDC Partnership programs should fund data management systems, dedicated MRV budget lines, and institutional homes for GHG inventory functions, not just train individuals to operate systems	GCF, NDC Partnership, UNDP	GCF Readiness Program redesign; UNDP Climate Promise Phase 2
	Invest in inter-ministerial coordination infrastructure.	Provide sustained funding for NDC inter-ministerial technical working groups with binding coordination authority, operational budgets, and secretariat capacity — not ad hoc committees.	Governments, World Bank, GIZ	Public sector reform programs; governance support windows
	Develop subnational climate governance capacity as a discrete program area	Design programs specifically for county/district climate governance, including technical support for County Integrated Development Plans (Kenya) and District Environment Management Plans (Uganda and Tanzania)	GCA, UNDP, bilateral donors	GCA Adaptation Fund allocation; USAID bilateral programs
Systemic Capacity (SC)	Mandate climate budget tagging through Public Finance Management reform	Support legislative reform to embed mandatory climate budget tagging in PFM Acts across all four countries; develop standardized MTEF-NDC linkage templates; fund Treasury climate finance tracking units	Governments, IMF, World Bank	Article IV consultations; World Bank PFM support programs; AfDB budget support
	Institutionalize intergovernmental climate fiscal transfers.	Design and legislate climate finance transfer formulas from national to county/district level, with minimum allocation floors for adaptation action; draw on Rwanda's district development fund model	Governments, GCA, AfDB	Fiscal decentralization reform; Climate Investment Funds; GCA Accelerator
	Redesign donor accountability frameworks around institutional outcomes	OECD DAC members should revise climate capacity-building evaluation standards to require OM-4 and OM-5 level outcome measurement; NDC Partnership should adopt IAC conditions as program design criteria	OECD DAC, NDC Partnership Board, GCF Board	NCQG negotiations; OECD DAC peer reviews; NDC Partnership Strategy 2026
	Support independent NDC accountability architecture.	Fund independent national climate oversight mechanisms (parliamentary committees, civil society monitoring coalitions, ombudsperson functions) as a dedicated program area, modeled on Rwanda's parliamentary Climate Committee	UNDP Governance programs, bilateral donors	UNDP governance window; EU budget support programs; NDC Partnership accountability

Note. Recommendations derived from the institutional gap analyses in Tables 8–10 and the causal pathway model in Figure 3. Recommendations are sequenced by capacity level to indicate institutional priority: OC and SC reforms provide the enabling conditions without which IC reforms have diminishing returns. NCQG = New Collective Quantified Goal; PFM = Public Finance Management; NDA = National Designated Authority; IAC = Institutional Absorption Capacity; GCA = Global Center on Adaptation; AfDB = African Development Bank

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The empirical findings across Kenya, Tanzania, Uganda, and Rwanda are consistent and mutually reinforcing. Seventy percent of analyzed capacity-building programs employ input or output-focused intervention logics; 60 percent of all capacity references in program documents target individual-level skills; NDC mainstreaming across national planning systems is predominantly cosmetic or rhetorical; and budget-NDC alignment ranges from 21 percent in Tanzania to 54 percent in Rwanda, the highest-performing case. Climate finance disbursement ratios, local government finance shares, GCF project approval timelines, and MRV system quality scores all correlate more strongly with the organizational and systemic capacity conditions documented through document analysis than with the volume of individual-level training received. Rwanda's partial escape from the capability trap achieved through the Imihigo performance contract system and mandatory climate budget tagging demonstrates that institutional absorption capacity can be built through endogenous governance innovation, providing a regionally grounded model for what the required institutional reforms look like in practice.

The paper's three theoretical contributions, the three-level capacity framework, the institutional absorption capacity concept, and the causal pathway model of capability trap production collectively advance the climate governance literature by providing a causally specified, empirically grounded, and methodologically replicable framework for understanding why implementation gaps persist. The five key findings of the analysis are summarized below as a synthesis for readers and policymakers.

Finding 1: International climate capacity-building in East Africa is overwhelmingly individual-level: 70% of programs use input/output intervention logics and 60% of capacity references target individual skills, systematically neglecting the organizational and systemic conditions that NDC implementation requires.

Finding 2: NDC institutional specificity remains weak across all four countries: no country exceeds a composite IS score of 3.6, and subnational mandates and budget integration receive the lowest scores in every case, creating a formal governance architecture that looks capable without functioning as such.

Finding 3: NDC mainstreaming is predominantly cosmetic or rhetorical: no country scores MD-5 on any document type, and the budget-NDC disconnect is most acute in Tanzania (MTEF scoring MD-1) and most advanced in Rwanda (MTEF scoring MD-4), a gap explained primarily by governance system differences rather than capacity-building investment.

Finding 4: Rwanda's superior implementation performance is explained by endogenous institutional conditions, particularly the Imihigo accountability system and mandatory climate budget tagging rather than greater capacity-building investment, confirming that institutional absorption capacity is the critical missing variable in current capacity-building theory and practice.

Finding 5: The capability trap is self-reinforcing: because donor accountability frameworks measure activity completion, the system generates evidence of its own success while institutional performance stagnates, requiring deliberate reform of both donor incentive structures and recipient government institutional investment to break the cycle.

These findings carry an urgent practical message for the climate policy community as the NCQG framework is operationalized and as East African countries prepare their next generation of NDCs ahead of the 2025 global stocktake. The window between now and 2030, in which East Africa must mobilize USD 280–300 billion for NDC implementation while receiving less than 12–15 percent of that requirement annually, cannot be closed by training more officials in the same systems that have produced the current gap. It requires a qualitative shift in the theory of change that governs climate capacity-building finance: from individual knowledge accumulation to institutional system building, from activity

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metrics to institutional outcome measurement, and from compliance- oriented NDC production to accountability-anchored NDC implementation. The institutional absorption capacity framework developed in this paper provides the conceptual and methodological tools to support that shift, and the comparative evidence from Rwanda demonstrates that it is achievable not as a distant aspiration but as a practically realizable governance transformation within the current regional context.

Limitations and Future Research Directions

Three directions for future research follow directly from the limitations of this paper's methodology. First, the most important empirical gap is the absence of primary data directly testing the individual-to-institutional translation mechanism. Future research employing structured elite interviews with climate governance officials who have participated in multiple capacity-building programs would provide direct evidence of how trained individuals experience the institutional environments they return to, allowing the capability trap mechanism to be examined from the perspective of those caught within it rather than inferred from documentary evidence alone. Second, the longitudinal dimension of the capability trap, whether countries over extended periods show evidence of gradual institutional absorption even without deliberate systemic investment, requires panel analysis tracking the same institutions across multiple NDC cycles. Kenya's modest improvement in IS scores between first and second NDC generations (from 2.4 to 3.1) suggests some organic institutional learning is occurring, but whether this is sufficient in pace and depth to support the 2030 NDC implementation trajectory cannot be assessed from the current cross-sectional analysis.

Third, extending the comparative framework beyond East Africa to West and Southern African contexts would test whether the capability trap patterns identified here are specifically East African or reflect structural features of the international climate capacity-building system. Preliminary evidence from Schipper et al. (2020), Atteridge et al. (2021), and Trisos et al. (2022) suggests that comparable dynamics operate in other African sub-regions, but systematic comparative document analysis applying the five-dimension coding framework to West African ECOWAS states or Southern African Development Community (SADC) members would provide the continental- scale evidence needed to support the systemic reform recommendations of Section 7.2 with greater confidence. Such research would also enable assessment of whether the IAC conditions that predict Rwanda's relative success in East Africa, particularly accountability architecture and budget integration, are generalizable predictors of NDC implementation performance across diverse African governance contexts, or whether region-specific institutional factors moderate their effects.

REFERENCES

Adger, W. N., Hughes, T. P., Folke, C., Carpenter, S. R., & Rockström, J. (2005). Social-Ecological Resilience to Coastal Disasters. *Science*, *309*(5737), 1036–1039. https://doi.org/10.1126/science.1112122

African Development Bank. (2023, May 16). *Climate finance in Africa: African Development Bank spearheading innovative mechanisms and instruments* [Text]. African Development Bank Group. African Development Bank Group. https://www.afdb.org/en/news-and-events/climate-finance-africa-african-development-bank-spearheading-innovative-mechanisms-and-instruments-61174

African Development Bank. (2024). *Financing Climate Action in Africa* (AfDB-CIF Annual Report 2023). African Development Bank Group. https://www.afdb.org/sites/default/files/documents/publications/afdb-cif_annual_report_2023_0.pdf

African Union. (2015). *Agenda 2063: The Africa We Want*. African Union Commission. https://au.int/sites/default/files/documents/36204-doc-agenda2063_popular_version_en.pdf

Andrews, M. (2013). *The Limits of Institutional Reform in Development: Changing Rules for Realistic Solutions*. Cambridge University Press. https://doi.org/10.1017/CBO9781139060974

Andrews, M., Pritchett, L., & Woolcock, M. (2017). *Building State Capability: Evidence, Analysis, Action*. Oxford University Press. https://bsc.hks.harvard.edu/publications/building-state-capability-evidence-analysis-action/

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Argyris, C., & Schön, D. A. (1978). *Organizational Learning: A Theory of Action Perspective*. Addison-Wesley Publishing Company.

Baser, H., & Morgan, P. (2008). *Capacity, Change and Performance Study Report* (Discussion Paper No 59B). European Centre for Development Policy Management. https://ecdpm.org/application/files/2516/5547/2658/DP-59B-Capacity-Change-Performance-Study-Report-2008.pdf

Basurto, X., Kingsley, G., McQueen, K., Smith, M., & Weible, C. M. (2010). A Systematic Approach to Institutional Analysis: Applying Crawford and Ostrom's Grammar. *Political Research Quarterly*, *63*(3), 523–537. https://doi.org/10.1177/1065912909334430

Benner, T., Reinicke, W. H., & Witte, J. M. (2004). Multisectoral Networks in Global Governance: Towards a Pluralistic System of Accountability. *Government and Opposition*, *39*(2), 191–210. https://doi.org/10.1111/j.1477-7053.2004.00120.x

Betsill, M. M., & Bulkeley, H. (2006). Cities and the multilevel governance of global climate change. *Global Governance*, *12*(2), 141–159. https://doi.org/10.1163/19426720-01202004

Bhattacharya, A., Calland, R., Averchenkova, A., Gonzalez, L., Martinez-Diaz, L., & Rooij, J. V. (2020). *Delivering on the $100 Billion Climate Finance Commitment and Transforming Climate Finance*. Independent Expert Group on Climate Finance. https://www.un.org/sites/un2.un.org/files/2020/12/100_billion_climate_finance_report.pdf

Biermann, F., Abbott, K., Andresen, S., Bäckstrand, K., Bernstein, S., Betsill, M. M., Bulkeley, H., Cashore, B., Clapp, J., Folke, C., Gupta, A., Gupta, J., Haas, P. M., Jordan, A., Kanie, N., Kluvánková-Oravská, T., Lebel, L., Liverman, D., Meadowcroft, J., … Zondervan, R. (2012). Science and government. Navigating the anthropocene: Improving Earth system governance. *Science*, *335*(6074), 1306–1307. https://doi.org/10.1126/science.1217255

Booth, D. (2011). Aid, Institutions and Governance: What Have We Learned? *Development Policy Review*, *29*(s1), s5–s26. https://doi.org/10.1111/j.1467-7679.2011.00518.x

Bowen, G. A. (2009). Document Analysis as a Qualitative Research Method. *Qualitative Research Journal*, *9*(2), 27–40. (world). https://doi.org/10.3316/QRJ0902027

Brinkerhoff, D. W., & Morgan, P. J. (2010). Capacity and capacity development: Coping with complexity. *Public Administration and Development*, *30*(1), 2–10. https://doi.org/10.1002/pad.559

Buchner, B., Naran, B., Pedro Fernandes, Padmanabhi, R., Rosane, P., Solomon, M., Stout, S., Strinati, C., Tolentino, R., Wakaba, G., Zhu, Y., Meattle, C., & Guzmán, S. (2021). *Global Landscape of Climate Finance 2021*. Climate Policy Initiative. https://www.climatepolicyinitiative.org/wp-content/uploads/2021/10/Full-report-Global-Landscape-of-Climate-Finance-2021.pdf

Carty, T., & Kowalzig, J. (2022). Climate Finance Short-changed: The real value of the $100 billion commitment in 2019–2020. *Oxfam Policy & Practice*. https://policy-practice.oxfam.org/resources/climate-finance-short-changed-the-real-value-of-the-100-billion-commitment-in-2-621426/

Chambers, R. (1994). The origins and practice of participatory rural appraisal. *World Development*, *22*(7), 953–969. https://doi.org/10.1016/0305-750X(94)90141-4

Chambers, R. (2005). *Ideas for Development*. Routledge. https://doi.org/10.4324/9781849771665

Chambwera, M., Heal, G., Dubeux, C., Hallegatte, S., Leclerc, L., Markandya, A., McCarl, B. A., Mechler, R., & Neumann, J. E. (2014). 17—Economics of Adaptation. In P. Dumas, S. Fankhauser, H.-M. Füssel, A. Hunt, H. Kunreuther, R. S. J. Tol, P. Watkiss, R. Woodward, D. Zilberman, E. Calvo, A. Iglesias, & S. Navrud (Eds), *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (pp. 945–977). Cambridge University Press. https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-Chap17_FINAL.pdf

Cleaver, F. (2017). *Development Through Bricolage: Rethinking Institutions for Natural Resource Management*. Routledge. https://doi.org/10.4324/9781315094915

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, *35*(1), 128–152. https://doi.org/10.2307/2393553

DiMaggio, P. J., & Powell, W. W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review*, *48*(2), 147–160. https://doi.org/10.2307/2095101

Dubash, N. K. (2021). Varieties of climate governance: The emergence and functioning of climate institutions. *Environmental Politics*, *30*(sup1), 1–

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25. https://doi.org/10.1080/09644016.2021.1979775

East African Community. (2011). *East African Community Climate Change Master Plan 2011-2031*. East African Community Secretariat. https://acts-net.org/OLD-SITE/images/Docs/EAC_Climate_Change_Master_Plan.pdf

Eisenhardt, K. M. (1989). Agency Theory: An Assessment and Review. *The Academy of Management Review*, *14*(1), 57–74. https://doi.org/10.2307/258191

Eyben, R. (2015). Uncovering the politics of evidence and results. In R. Eyben, I. Guijt, C. Roche, & C. Shutt (Eds), *The Politics of Evidence and Results in International Development: Playing the game to change the rules?* Practical Action Publishing. https://www.researchgate.net/publication/299867290_Uncovering_the_politics_of_evidence_and_results

Folke, C., Hahn, T., Olsson, P., & Norberg, J. (2005). Adaptive Governance of Social-ecological Systems. *Annual Review of Environment and Resources*, *30*(Volume 30, 2005), 441–473. https://doi.org/10.1146/annurev.energy.30.050504.144511

Fox, J. A. (2015). Social Accountability: What Does the Evidence Really Say? *World Development*, *72*, 346–361. https://doi.org/10.1016/j.worlddev.2015.03.011

Gaventa, J., & McGee, R. (2013). The Impact of Transparency and Accountability Initiatives. *Development Policy Review*, *31*(s1), s3–s28. https://doi.org/10.1111/dpr.12017

George, A. L., & Bennett, A. (2005). *Case Studies and Theory Development in the Social Sciences*. MIT Press.

GIZ. (2022). *GIZ African Union: Embracing Resilience: Africa's Pathway to Sustainable Development* (Annual Report 2022). Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH. https://www.giz.de/de/downloads/giz-en-2022-annual-report.pdf

Global Center on Adaptation. (2023). *The State and Trends in Adaptation 2023 Report*. Global Center on Adaptation. https://gca.org/wp-content/uploads/2024/04/STA23_web-version.pdf

Government of Kenya. (2021). *Kenya's Updated Nationally Determined Contribution (NDC) and JCM activities*. Ministry of Environment Climate Change and Forestry. https://kenyaclimatedirectory.org/

Government of Kenya. (2023). *National Climate Change Action Plan (Kenya) 2023-2027:* Ministry of Environment, Climate Change and Forestry. https://emsi.co.ke/wp-content/uploads/2024/08/Kenya-NCCAP-2023-2027-1.pdf

Government of Rwanda. (2020). *Updated Nationally Determined Contribution*. Minister of Environment, Republic of Rwanda. https://unfccc.int/sites/default/files/NDC/2022-06/Rwanda_Updated_NDC_May_2020.pdf

Government of Tanzania. (2021). *Tanzania's Nationally Determined Contribution*. United Republic of Tanzania, Vice President's Office. https://unfccc.int/sites/default/files/NDC/2022-06/TANZANIA_NDC_SUBMISSION_30%20JULY%202021.pdf

Government of Uganda. (2022). *Updated Nationally Determined Contribution (NDC)*. Republic of Uganda, Ministry of Water and Environment. https://unfccc.int/sites/default/files/NDC/2022-09/Updated%20NDC%20_Uganda_2022%20Final.pdf

Green Climate Fund. (2024). *Readiness and Preparatory Support Programme – annual report on implementation 2023* (Text GCF/B.40/Inf.05). Green Climate Fund. https://www.greenclimate.fund/document/gcf-b40-inf05

Grindle, M. S. (with Internet Archive). (1997). *Getting good government: Capacity building in the public sectors of developing countries*. [Cambridge, MA] : Harvard Institute for International Development, Harvard University : Distributed by Harvard University Press. http://archive.org/details/gettinggoodgover00meri

Haites, E., Bertoldi, P., König, M., Bataille, C., Creutzig, F., Dasgupta, D., de la rue du Can, S., Khennas, S., Kim, Y.-G., Nilsson, L. J., Roy, J., & Sari, A. (2024). Contribution of carbon pricing to meeting a mid-century net zero target. *Climate Policy*, *24*(1), 1–12. https://doi.org/10.1080/14693062.2023.2170312

Hall, P. A., & Taylor, R. C. R. (1996). Political Science and the Three New Institutionalisms. *Political Studies*, *44*(5), 936–957. https://doi.org/10.1111/j.1467-9248.1996.tb00343.x

Hirschman, A. O. (1970). *Exit, voice, and loyalty: Responses to decline in firms, organizations, and states*. Harvard University Press. https://hdl.handle.net/2027/heb04043.0001.001

Hochstetler, K. (2020). *Political Economies of Energy Transition: Wind and Solar Power in Brazil and South Africa*. Cambridge University Press. https://doi.org/10.1017/9781108920353

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Howlett, M., Ramesh, M., & Perl, A. (2009). *Studying Public Policy: Policy Cycles & Policy Subsystems*. Oxford University Press.

ICAT. (2023). *ICAT 2022 Impact Report*. Initiative for Climate Action Transparency (ICAT). https://climateactiontransparency.org/wp-content/uploads/2023/02/2022-impact-report-updated-2.pdf

Ijjasz-Vasquez, E., Saghir, J., & Richmond, M. (2024, February 22). Finance for climate adaptation in Africa still insufficient and losing ground. *Brookings*. https://www.brookings.edu/articles/finance-for-climate-adaptation-in-africa-still-insufficient-and-losing-ground/

Khalifa, N. (2025, December 21). *Enhancing the Viability of NDCs in East Africa: Assessing Progress, Gaps and path to net zero*. https://gepc.or.tz/enhancing-the-viability-of-ndcs-in-east-africa-assessing-progress-gaps-and-path-to-net-zero/

Leftwich, A., & Wheeler, C. (2011). Politics, Leadership and Coalitions in Development—A Research and Policy Workshop Report. *Findings, Insights and Guidance from the DLP's First Research and Policy Workshop. Frankfurt 10 -11 March 2011*. https://dlprog.org/wp-content/uploads/publications/nFv3S0rCyIzOCcXoZXDN4iXUSRhmE9jct3htVug8.pdf

Lesnikowski, A., Ford-Robertson, J., Biesbroek, G. R., Berrang-Ford, L., & Heymann, S. J. (2016). National-level progress on adaptation. *Nature Climate Change*, *6*, 261–264. https://doi.org/10.1038/NCLIMATE2863

Mahoney, J., & Thelen, K. (2010). *Explaining Institutional Change: Ambiguity, Agency, and Power*. Cambridge University Press.

McGinnis, M. D. (2011). An Introduction to IAD and the Language of the Ostrom Workshop: A Simple Guide to a Complex Framework. *Policy Studies Journal*, *39*(1), 169–183. https://doi.org/10.1111/j.1541-0072.2010.00401.x

Meattle, C., Balm, A., Diaz, J. E., Miao, G., Stout, S., Gupta, I., Abraham, S., Sloley, A., & Wignarajah, D. (2024). *Landscape of Climate Finance in Africa—2024*. Climate Policy Initiative. https://www.climatepolicyinitiative.org/wp-content/uploads/2024/10/Landscape-of-Climate-Finance-in-Africa-2024.pdf

Meattle, C., Padmanabhi, R., Fernandes, P. de A., Balm, A., Chiriac, D., & Tonkonogy, B. (2022). *Landscape of Climate Finance in Africa—2022*. Climate Policy Initiative. https://www.climatepolicyinitiative.org/wp-content/uploads/2022/09/Landscape-of-Climate-Finance-in-Africa.pdf

Meckling, J., & Jenner, S. (2016). Varieties of market-based policy: Instrument choice in climate policy. *Environmental Politics*, *25*(5), 853–874. https://doi.org/10.1080/09644016.2016.1168062

MINECOFIN. (2022). *Enhance the Capacity of MREF Costing in Rwanda* (Rwanda MTEF User Manual). Ministry of Finance and Economic Planning. https://www.minecofin.gov.rw/index.php?eID=dumpFile&t=f&f=62510&token=9895b74de495b8f9065d3938e5e06ca98cd71970

Morgan, P. (2006). *The Concept of Capacity*. European Centre for Development Policy Management. https://ecdpm.org/application/files/3616/5547/2779/2006-The-Concept-of-Capacity.pdf

Mosse, D. (2004). *Cultivating Development: An Ethnography of Aid Policy and Practice*. Pluto Books.

NDC Partnership. (2022). *Annual Report on the Taskforce on Access to Climate Finance 2023*. NDC Partnership. https://ndcpartnership.org/sites/default/files/2023-12/annual-report-taskforce-access-climate-finance-2023.pdf

Northrop, E., Dagnet, Y., Höhne, N., Thwaites, J., & Mogelgaard, K. (2018). Achieving the ambition of Paris: Designing the global Stocktake. *World Resources Institute (WRI)*. https://newclimate.org/sites/default/files/2018/04/achieving-ambition-paris-designing-global-stocktake.pdf

OECD. (2023). *Climate Finance Provided and Mobilised by Developed Countries in 2013-2021: Aggregate Trends and Opportunities for Scaling Up Adaptation and Mobilised Private Finance*. OECD Publishing. https://doi.org/10.1787/e20d2bc7-en

Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge University Press.

Ostrom, E. (2009). *Understanding Institutional Diversity*. Princeton University Press.

Pahl-Wostl, C. (2009). A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes. *Global Environmental Change*, *19*(3), 354–365. https://doi.org/10.1016/j.gloenvcha.2009.06.001

Pauw, W. P., Castro, P., Pickering, J., & Bhasin, S. (2020). Conditional nationally determined contributions in the Paris Agreement: Foothold for equity or Achilles heel? *Climate Policy*, *20*(4), 468–484. https://doi.org/10.1080/14693062.2019.1635874

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Pelling, M., O'Brien, K., & Matyas, D. (2015). Adaptation and transformation. *Climatic Change*, *133*(1), 113–127. https://doi.org/10.1007/s10584-014-1303-0

Polski, M. M., & Ostrom, E. (1999). *An institutional framework for policy analysis and design* (Workshop in Political Theory and Policy Analysis Working Paper W98-27; pp. 13–47). Lexington Books. https://scholar.google.com/scholar?cluster=11425722912175997559&hl=en&oi=scholarr

Pratt, J. W. (1978). Risk aversion in the small and in the large. In P. Diamond & M. Rothschild (Eds), *Uncertainty in Economics* (pp. 59–79). Academic Press. https://doi.org/10.1016/B978-0-12-214850-7.50010-3

Pritchett, L. (2014). *The Rebirth of Education: Schooling Ain't Learning*. Center for Global Development. https://www.cgdev.org/sites/default/files/rebirth-education-introduction_0.pdf

Pritchett, L., Woolcock, M., & Andrews, M. (2013). Looking Like a State: Techniques of Persistent Failure in State Capability for Implementation. *Journal of Development Studies*, *49*(1), 1–18. https://ideas.repec.org//a/taf/jdevst/v49y2013i1p1-18.html

REMA. (2022). *Detailed Implementation Plan for the Nationally Determined Contributions (Ndcs) of Rwanda*. Rwanda Environment Management Authority. https://www.environment.gov.rw/index.php?eID=dumpFile&t=f&f=10560&token=7e81ec575786faf65e6e1713ee0f16020c08fc98

Roelfsema, M., van Soest, H. L., Harmsen, M., van Vuuren, D. P., Bertram, C., den Elzen, M., Höhne, N., Iacobuta, G., Krey, V., Kriegler, E., Luderer, G., Riahi, K., Ueckerdt, F., Després, J., Drouet, L., Emmerling, J., Frank, S., Fricko, O., Gidden, M., … Vishwanathan, S. S. (2020). Taking stock of national climate policies to evaluate implementation of the Paris Agreement. *Nature Communications*, *11*(1), 2096. https://doi.org/10.1038/s41467-020-15414-6

Saldana, J. (2021). *The Coding Manual for Qualitative Researchers*. SAGE.

Savvidou, G., Atteridge, A., Omari-Motsumi, K., & Trisos, C. H. (2021). Quantifying international public finance for climate change adaptation in Africa. *Climate Policy*, *21*(8), 1020–1036. https://doi.org/10.1080/14693062.2021.1978053

Schipper, E. L. F., Revi, A., & Preston, B. L. (2022). Climate-Resilient Development Pathways Supplementary Material. In D. Liverman & Z. Shawoo (Eds), *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Intergovernmental Panel on Climate Change. https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Chapter18_SM.pdf

Termeer, C. J. A. M., Dewulf, A., & Biesbroek, G. R. (2017). Transformational change: Governance interventions for climate change adaptation from a continuous change perspective. *Journal of Environmental Planning and Management*, *60*(4), 558–576. https://doi.org/10.1080/09640568.2016.1168288

Tompkins, E., & Adger, W. N. (2004). Ecology and Society: Does Adaptive Management of Natural Resources Enhance Resilience to Climate Change? *Ecology and Society*, *9*(2). https://doi.org/10.5751/ES-00667-090210

Trisos, C. H., Adelekan, I. O., & Totin, E. (2022). Chapter 9: Africa. In H. Pörtner (Ed.), *Climate change 2022: Impacts, adaptation and vulnerability. IPCC Sixth Assessment Report* (pp. 1285–1455). Cambridge University Press. https://www.ipcc.ch/report/ar6/wg2/chapter/chapter-9/

Underdal, A. (2010). Complexity and challenges of long-term environmental governance. *Global Environmental Change, Governance, Complexity and Resilience*, *20*(3), 386–393. https://doi.org/10.1016/j.gloenvcha.2010.02.005

UNDP. (2009). *Capacity Development: A UNDP Primer*. United Nations Development Programme. https://www.undp.org/publications/capacity-development-undp-primer

UNDP. (2023a). *Adaptation Gap Report 2023*. United Nations Development Programme. https://www.unep.org/resources/adaptation-gap-report-2023

UNDP. (2023b). *Climate Promise—II*. United Nations Development Programme. https://www.undp.org/sites/g/files/zskgke326/files/2023-04/Climate%20Promise_Project%20Brief%202023.pdf

UNFCCC. (2022). *Synthesis report for the technical assessment component of the first global stocktake: State of adaptation efforts, experiences and priorities*. United Nations Framework Convention on Climate Change. https://unfccc.int/sites/default/files/resource/Synthesis%20report%20on%20the%20state%20of%20adaptation%20efforts%2C%20experiences%20and%20priorities.pdf

UNFCCC. (2024a). *2023 NDC Synthesis Report*. United Nations Framework Convention on Climate Change. https://unfccc.int/ndc-synthesis-report-2023

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UNFCCC. (2024b). *Decision -/CMA.6: New collective quantified goal on climate finance*. United Nations Framework Convention on Climate Change. https://unfccc.int/sites/default/files/resource/CMA_11%28a%29_NCQG.pdf

Volberda, H. W., Foss, N. J., & Lyles, M. A. (2010). PERSPECTIVE—Absorbing the Concept of Absorptive Capacity: How to Realize Its Potential in the Organization Field. *Organization Science*, *21*(4), 931–951. https://doi.org/10.1287/orsc.1090.0503

World Bank. (2022). *Rwanda Country Climate and Development Report*. World Bank. https://openknowledge.worldbank.org/entities/publication/6b410886-99f8-555e-a884-0695218a8458

World Bank. (2023). *Africa Country Policy and Institutional Assessment (CPIA)*. World Bank. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099634410132333843

Yin, R. K. (2017). *Case Study Research and Applications: Design and Methods*. SAGE Publications. https://uk.sagepub.com/en-gb/eur/case-study-research-and-applications/book250150

Zahra, S. A., & George, G. (2002). Absorptive Capacity: A Review, Reconceptualization, and Extension. *Academy of Management Review*, *27*(2), 185–203. https://doi.org/10.5465/amr.2002.6587995

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